Sociálno-ekonomická revue

Fakulta sociálno-ekonomických vzťahov,
Trenčianska univerzita Alexandra Dubčeka v Trenčíne

Vedecký časopis – Scientific Journal

Social and Economic Revue

Faculty of Social and Economic Relations
Alexander Dubček University of Trenčín

ISSN – 1336-3727

Sociálno-ekonomická revue
Social and Economic Revue

Redakcia/Editorial office:
Študentská 2,
911 50 Trenčín
Tel.: 032/7 400 428, Fax: 032/7 400 403
URL: http://fsev.tnuni.sk/revue
E-mail: revue@tnuni.sk

Časopis Sociálno-ekonomická revue vychádza polročne.
The Social and Economic Revue is published semi-annually.

Vydavateľ/Publishing house:
Fakulta sociálno-ekonomických vzťahov, Trenčianska univerzita Alexandra Dubčeka v Trenčíne.
IČO 00 31 118 259

The Social and Economic Revue journal is indexed in international scientific databases: *Index Copernicus, Central and Eastern European online Library (CEEOL), EBSCO Publishing, Inc. - Business Source Complete, EconBiz*.

EV 3775/09

ISSN - 1336-3727 (tlačené vydanie/print edition)
ISSN - 2585-9358 (online)

Sociálno-ekonomická revue

Fakulta sociálno-ekonomických vzťahov,
Trenčianska univerzita Alexandra Dubčeka v Trenčíne

Vedecký časopis – Scientific Journal

Social and Economic Revue

Faculty of Social and Economic Relations,
Alexander Dubček University of Trenčín

Ročník 22, December 2024, číslo 2
Volume 22, December 2024, no. 2

Obsah Contents

ODBORNÉ ČLÁNKY / PROFESSIONAL ARTICLES

IMMIGRANT INTEGRATION IN THE EUROPEAN UNION

Eva GRMANOVÁ

Abstract

Finding solutions to questions related to immigration and immigrant integration is currently highly topical in the EU. Immigrants integrated into the labor market positively impact the economic outcomes of the host country and its labor market. Immigrants who quickly find employment and are satisfied with their jobs do not burden the financial system of the host country. Conversely, unemployed immigrants place a financial strain on the economy. The goal of our study is to identify which EU countries are least burdened by immigrants in terms of their labor market integration. Countries are evaluated based on their overall benefit, expressed through the Weighted Sum Approach, a multi-criteria decision-making method. The overall benefit is determined by employment rates, the proportion of immigrants finding work within three months, and job satisfaction among immigrants. The highest overall benefit was observed in Poland, the Czech Republic Malta, Hungary and Slovakia.

Key words:
immigrant, integration, multi-criteria decision-making method, overall benefit, EU countries

JEL Classification J62, F22, O15 https://doi.org/10.52665/ser20240201

INTRODUCTION

Labor markets across all EU countries are undergoing significant transformations. Long-term low birth rates and increasing life expectancy are reducing the size of the labor force and altering its age structure. The share of people in post-productive age is increasing, adding to the economic burden on the productive segment of the population. According to Eurostat projections (2024, 1), this trend is expected to continue in the coming years. Consequently, finding ways to reduce the economic burden on the productive population and increasing the number of workers has become a necessity. One solution is to accept immigrants who are willing and able to work. Talani (2024) agrees, emphasizing that international migration positively impacts labor shortages and economic development by reducing labor supply deficits, increasing investments, improving technologies, boosting employment, enhancing productivity, and raising GDP.

In our study, we focus on aspects that help identify the economic burden on EU27 countries in the context of immigrant labor market integration:

1. Immigrant employment rates: Lower employment rates among immigrants result in a higher financial burden on the country due to unemployed immigrants.
2. Time taken to secure employment: Longer periods needed for immigrants to find work increase the financial strain on the host country.
3. Job satisfaction in current employment: Low job satisfaction among immigrants can lead to higher turnover, resulting in unemployment or their departure from the host country, thereby increasing the country's financial costs. Policies aimed at retaining immigrants in the host country for the long term are especially important, with job satisfaction being a crucial component of such policies (Niemann et al., 2024).

In this study, in addition to examining the mentioned aspects from an international perspective, we will also focus on the position of Slovakia. Slovakia has consistently had a low number of immigrants (Eurostat, 2024, 2). Furthermore, it is characteristic of Slovakia that labor shortages began to manifest later than in most economically developed EU27 countries. Therefore, we hypothesize that Slovakia will lag behind the most developed EU27 countries in the process of immigrant integration.

We aim to evaluate EU countries based on all the mentioned indicators. To assess EU27 countries using all the indicators (criteria), it is

necessary to apply multi-criteria decision-making methods and express a single indicator, which will represent the overall benefit.

Based on this, the research question is:
Which EU27 countries achieve the highest overall benefit based on the analyzed indicators?

By answering the research question, we want to identify which EU27 countries are the least burdened by immigrants in terms of entry into the labour market.

Our goal is to identify which EU27 countries are least burdened by immigrants concerning their labor market integration.

The procedure will be as follows:

1. Based on data from the Eurostat database, we will compare the employment rates of individual EU27 countries in two groups: foreign-born individuals and the native population.
2. Using Eurostat data, we will compare the proportion of foreign-born individuals in each EU27 country who are able to find work within three months.
3. Based on Eurostat data, we will compare the job satisfaction levels of foreign-born individuals and the native population in each EU27 country.
4. By applying the Weighted Sum Approach to all three analyzed indicators, we will express the overall benefit for all EU27 countries.
5. Finally, we will compare Slovakia's overall benefit in the context of the EU27 countries.

The integration of immigrants is addressed at the national level in all EU countries. The importance of tackling the issue of immigrant integration is undeniable. However, we find that systematic evaluations of EU countries' approaches to immigrant integration, particularly regarding the burden on the economic system, are often inconsistent in scientific studies. A research gap exists due to the incompleteness and inconsistency of relevant empirical findings on immigrant integration in EU27 countries.

The addressed topic is highly relevant from multiple perspectives. On one hand, it concerns the issue of labor shortages, and on the other, it is connected to certain government decisions related to the Pact on Migration and Asylum, which establishes new migration rules and was adopted on April 10, 2024 (Eurostat, 2024, 3). The results of the study and its findings are intended for policymakers, employers, researchers, and stakeholders who are trying to address the issue of immigrant integration. They can provide important information regarding which EU27 countries are most burdened by immigrants in terms of their labor market participation.

The study consists of the following sections: Following the introduction, there will be a literature overview and a description of the methodology and a goal. This will be followed by a section presenting results and discussion. The final main part of the study will be a conclusion summarizing the key findings.

Literature overview

However, international migration also presents challenges. It is considered one of the major political issues (Fouka, 2024). A significant problem arises when immigrants are unemployed, placing a strain on social systems, or when they fail to integrate into society. Addressing labor shortages in the long term requires the integration of immigrants. According to Bajusová & Šlosár (2019, p.26), referencing Penninx (2004), immigrant integration is "a process through which immigrants become an accepted part of society." These authors highlight various dimensions of social integration:
1. Structural dimension, encompassing employment, housing, education, and healthcare.
2. Cultural dimension, involving knowledge of the language, customs, and norms.
3. Interactive dimension, focusing on immigrants' inclusion in social networks.
4. The identification dimension, characterized by a sense of belonging to the host society. This highlights the multifaceted nature of immigrant integration.

Gathmann & Garbers (2023) also consider immigrant integration from a broader perspective. Most researchers distinguish between economic, political, and social integration. Economic integration focuses primarily on labor market integration, including education and vocational training (Autiero & Nese, 2024). Political integration considers participation in political organizations, while social integration examines two-way

interactions, such as immigrants' sense of belonging and host societies' acceptance of immigrants (Laurentsyeva & Venturini, 2017).

Since immigrant integration can be assessed from various perspectives, the outcomes of integration also vary across different areas. Kanas & Kosyaková (2024) note that one of the most critical factors characterizing the success of immigrant integration is human capital. However, human capital encompasses a range of aspects, the most important being the ability to succeed in the labor market. If immigrants remain unemployed or take a long time to secure employment, states lose potential tax revenues (Cassie, 2022). Employment outcomes are also influenced by job satisfaction among immigrants, which depends on several factors. Significant factors include workplace discrimination and prior education (Okafor & Kalu, 2024).

The integration of immigrants into the labor market is also influenced by migration policies. However, focusing migration policies on attracting only those immigrants that a country „need“ is highly challenging in practice (Portes, 2019). Key aspects of labor market integration for immigrants include improving their skills, which has become essential in the current era of digitalization and enhancing employee satisfaction.

2. Goal and Methodology

Our goal is to identify which EU27 countries are least burdened by immigrants concerning their labor market integration.

Secondary data from Eurostat were used for the analysis. Immigration was monitored based on place of birth. The data is from the year 2021 for all EU27 countries. In the study, the following indicators were utilized to achieve the goal:

1. Employment rate among foreign-born individuals and the native population, expressed as a percentage derived from the 2021 arithmetic average of quarterly data. The data was sourced from the Eurostat database (2024, 4). The analysis used data from the "LFS series."
2. The proportion of foreign-born people who are able to find work within three months. The data was sourced from the Eurostat database (2024, 5). The analysis used data from the "LFS ad-hoc modules on migration."
3. The proportion of foreign-born individuals and native-born individuals who expressed "High" and "Medium" satisfaction with their jobs. We do not focus on the options "Low," "None," and "No response" (Eurostat, 2024, 6). The analysis used data from the "LFS ad-hoc modules on migration." The source of the data is the survey "Questionnaire for the module 2021 on labour market situation of migrants and their immediate descendants" (Eurostat, 2024, 7).

Weighted Sum Approach

In this study, we focused on evaluating countries based on multiple indicators. To compare countries using all the indicators, we employed the multi-criteria decision-making method known as the *Weighted Sum Approach (WSA)*. According Williams & Cai (2024, p. 3) “These methods provide a straightforward and flexible approach for evaluating multiple criteria by assigning relative importance to different factors, making them particularly well-suited for both objective and subjective decision-making processes.“

The WSA is based on the construction of a linear utility function. The utility of individual criteria in the case of a maximization criterion (the normalized value for the i-th alternative and j-th criterion) expressed as follows:

$$y'_{ij} = \frac{y_{ij} - D_j}{H_j - D_j}, \quad i = 1, 2, \dots p; j = 1, 2, \dots k \qquad (1)$$

where D_j is the lowest possible value in the j-th criterion, H_j is the best possible value in the j-th criterion,

Overall benefit is expressed by (2)

$$u(X_i) = \sum_{j=1}^{k} v_j y'_{ij}, \quad i = 1, 2, \dots p; j = 1, 2, \dots k \qquad (2)$$

where v_j is the corresponding element from weight vector.

Overall benefit is from $\langle 0,1 \rangle$ (Jablonský & Dlouhý, 2004). “The option that reaches the maximum utility value is selected as being the best, or the results can allow the variants to be classified according to their decreasing utility values” (Stejskal et al., 2015, p. 246).

Saaty's method

We used the *Saaty's method* to determine the weights.

The degree of importance of the influence of one criterion over another in terms of its impact on increasing the country's financial costs is expressed on an integer scale from 1 to 9.

A value of 1 means equal importance, a value of 9 means that the importance of one criterion absolutely exceeds the importance of the other criterion. If a criterion is less important than the other, it is assigned the inverted value. The values from the pairwise comparison are compiled into a Saaty matrix, which has values of 1 on the diagonal. If the matrix is fully consistent, the weights of the individual criteria are calculated (Jablonský & Dlouhý, 2004)

Based on this, the research question is: Which EU27 countries achieve the highest overall benefit based on the analyzed indicators? Using the WSA method, we expressed the overall benefit for each country. Countries with the highest overall benefit have the best standing within the EU27.

3. Findings and discussion

Immigrants in EU Countries

EU countries differ significantly in the number of immigrants. They have various migration policies and are characterized by different factors that influence immigrants' interest in a given country. Countries with high economic performance and high average wages are the most attractive to immigrants. The number of immigrants in EU27 countries is also affected by the military conflict in Ukraine. Southern European countries, particularly Spain, Italy, and Greece, are struggling with a large number of asylum seekers.

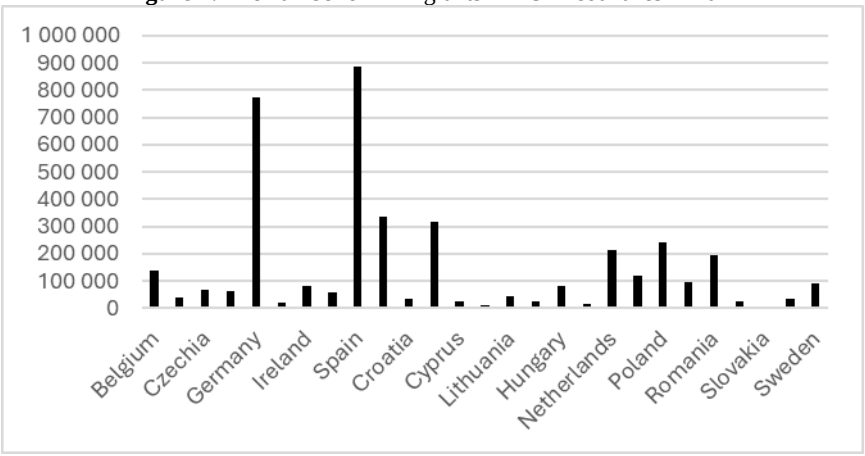
In 2021, the highest number of immigrants was in Spain and Germany. Conversely, the lowest number of immigrants was in Slovakia and Latvia. These two countries have long been among those with low numbers of immigrants. A graphical representation of the number of immigrants is shown in Figure 1.

Employment of Immigrants in EU Countries

A low employment rate among immigrants results in greater financial costs for the host country. Employment is significantly influenced by the system of immigrant admission in the country. Measures to reduce the number of immigrants and increase their employment include simplified employment procedures for individuals from outside the EU, particularly for filling positions that are not occupied by the native population.

One reason for the lower employment rates of immigrants in developed EU27 countries may be that some countries restrict access for asylum seekers to the labor market through employment bans. These bans are in effect during the asylum application process. According to studies cited by Fouka (2024), such an approach has a negative long-term effect.

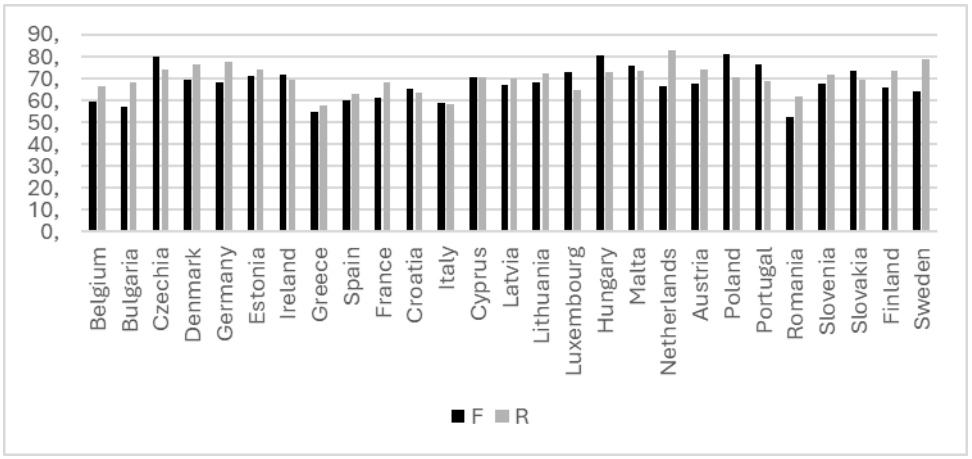
Figure 1: The number of immigrants in EU27 countries in 2021



Source: Eurostat (2024, 2), own elaboration

The employment rate of immigrants in EU27 countries ranged from 52.3% to 81.1%. The highest employment rates were observed in Poland and Hungary, while Romania had the lowest employment rate. A graphical representation of the employment rate values is shown in Figure 2.

Figure 2: Employment rate of the foreign-born population (F) and the population from reporting country (R)

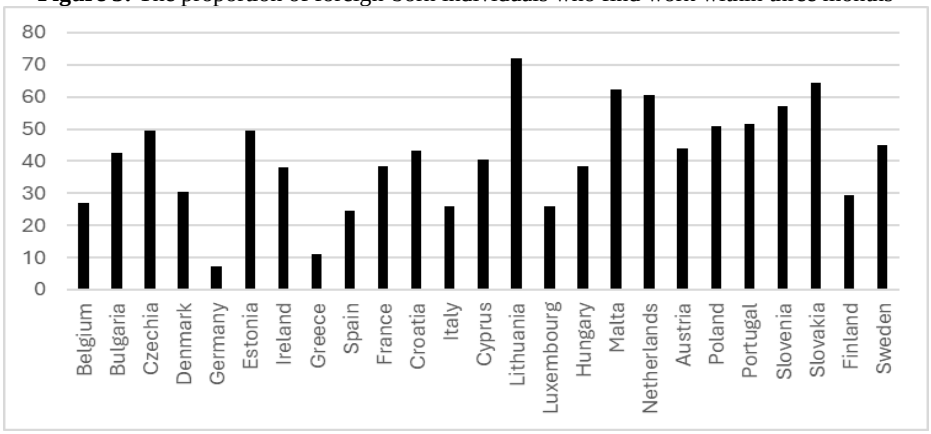


Source: Eurostat (2024, 4), own elaboration

Duration of Time to Find Employment for Foreign-Born Individuals

An increase in the duration of time it takes for immigrants to secure employment results in higher financial costs for the state. The proportion of foreign-born individuals who find work within three months varied widely across EU countries, ranging from 7.0% to 72.0%. The highest proportions of individuals finding work within three months were in Lithuania (72.0%) and Slovakia (64.5%). Both of these countries are characterized by a low share of migrants from impoverished countries (Eurostat, 2024, 8). Conversely, the lowest proportions of individuals finding work within three months were in Germany (7.3%) and Greece (11.2%). The average proportion of individuals finding work within three months in the EU was 25.8%. Data for Latvia and Romania were not published. A graphical representation of the proportions of individuals finding work within three months is shown in Figure 3.

Figure 3: The proportion of foreign-born individuals who find work within three months



Source: Eurostat (2024, 5), own elaboration

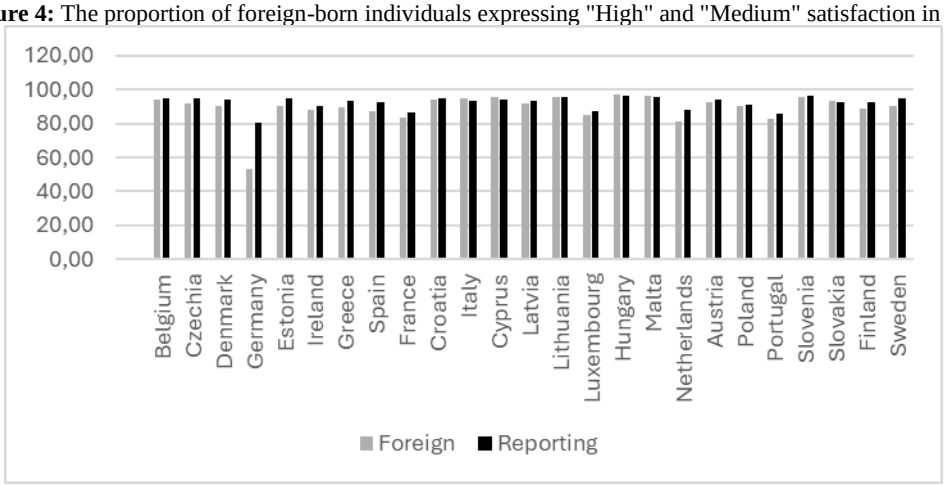
Job Satisfaction

Low job satisfaction leads to higher employee turnover. In cases where immigrants are dissatisfied with their jobs, it can be assumed that they will have little interest in remaining in their jobs or in the country. For the host country, this may result in increased costs. The proportion of foreign-born individuals reporting job satisfaction as "High" or "Medium" ranged from 53.3% to 96.9% across EU27 countries. The lowest proportion of immigrants indicating such levels of satisfaction was in Germany (53.3%). Conversely, the highest proportion of positive responses was in Hungary (96.9%). The average proportion of foreign-born individuals reporting "High" or "Medium" job satisfaction across EU27 countries is 77.1%. A graphical representation of these values is shown in Figure 4.

The largest disparity between the proportion of foreign-born individuals expressing "High" and "Medium" job satisfaction and the proportion of native-born individuals was observed in Germany. The proportion of native-born individuals reporting "High" and "Medium" satisfaction significantly exceeded that of individuals born outside the country.

Among EU27 countries, there were five states where the proportion of foreign-born individuals expressing "High" and "Medium" satisfaction was higher than that of native-born individuals expressing the same levels of satisfaction ("High" and "Medium"). These countries were Italy, Cyprus, Malta, Slovakia, and Hungary.

Figure 4: The proportion of foreign-born individuals expressing "High" and "Medium" satisfaction in %



Source: Eurostat (2024, 6), own elaboration

Overall Benefit from Analyzed Indicators

We created the Saaty matrix based on the comparison of the employment rate of foreign-born individuals (the first line and column, the proportion of foreign-born people who are able to find work within three months (the second line and column) and the proportion of foreign-born individuals who expressed "High" and "Medium" satisfaction with their jobs (the third line and column).

We consider the first indicator to be slightly more important than the second indicator and the first indicator to be much more important than the third indicator. We consider the second indicator to be slightly more important than the third indicator.

Saaty's matrix is:

$$\text{Saaty's matrix} = \begin{pmatrix} 1 & 2 & 6 \\ 1/2 & 1 & 3 \\ 1/6 & 1/3 & 1 \end{pmatrix} \quad (3)$$

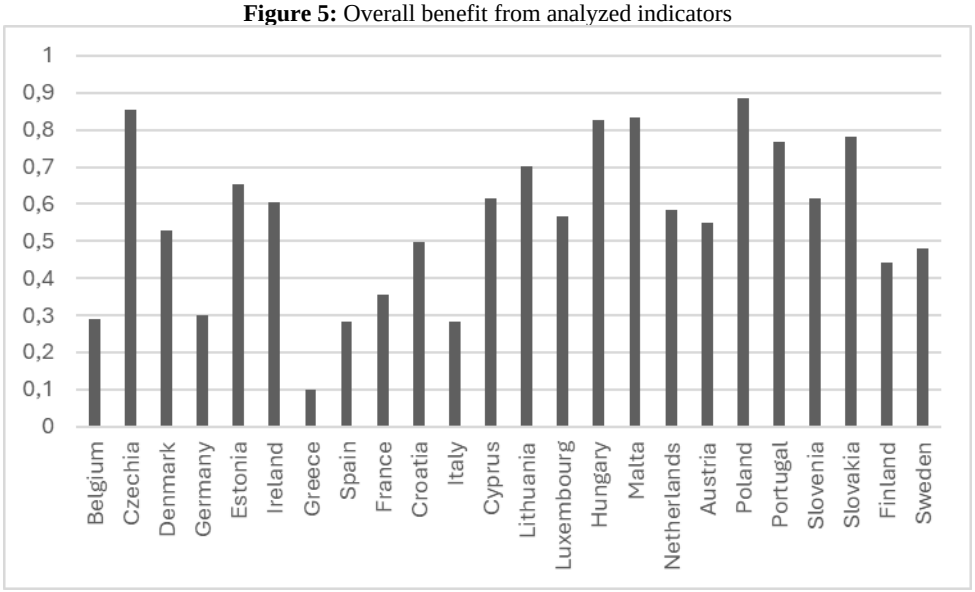
Saaty's matrix is consistent. The weights for the variables (first, second and third) are 0.6, 0.3, and 0.1.

Since we are monitoring multiple indicators, we expressed the overall benefit for 24 countries based on relationships (1) and (2). Bulgaria,

Romania and Latvia did not publish all data. Therefore, we excluded them from the analysis. The highest overall benefit indicates the least burden on a country from immigrants in terms of their labor market integration.

The highest overall benefit was observed in Poland. The next countries in order were the Czech Republic, Malta, Hungary and the Slovak Republic. These countries are the least burdened by immigrants regarding their labor market integration based on the mentioned indicators. Conversely, Greece had the lowest overall benefit, indicating that this country is most burdened by immigrants concerning their labor market integration. The values of overall benefit for individual countries are shown in Figure 5.

Figure 5: Overall benefit from analyzed indicators



Source: Eurostat (2024, 4), Eurostat (2024, 5), Eurostat (2024, 6), own elaboration

Our perspective on immigration in this study is economic. It does not take into account the human aspect. Asylum seekers are generally in very difficult life situations. Countries that accept asylum seekers consider these facts.

Position of Slovakia

In Slovakia, the number and proportion of immigrants relative to the population is very low. The employment rate of immigrants is higher than that of the native population. At the same time, Slovakia is among the countries with the highest proportion of immigrants who find employment within three months. It is evident that there are immigrants in Slovakia who are willing to work. The job satisfaction levels of immigrants indicate that their satisfaction is higher than that of the native population. The values of the analyzed indicators suggest that Slovakia has the fifth highest overall benefit within EU27. This implies that migration policy in Slovakia is set up to minimize the burden from immigrants in terms of their labor market integration. The assumption that Slovakia will lag behind the most developed EU27 countries in the process of immigrant integration was not confirmed when looking at economic integration.

However, based on population projections, it is clear that addressing the shortage of labor force in Slovakia can be achieved by increasing the number of immigrants willing to work in the country. Therefore, it is advantageous for Slovakia to accept young people interested in studying and subsequently working in the country, as well as individuals of productive age who are willing to work.

4. Conclusion

The current issue of the shortage of qualified labor and the increasing economic burden on the productive segment of the population can only be addressed through a systematic approach that includes immigration and the integration of

immigrants. Immigrant integration is a multidimensional process that achieves varying results in different EU countries based on national specifics.

We can summarize that the acceptance of immigrants and their integration is a necessity of the present time. It is one of the important approaches to increasing the size of the labor force. High employment rates, short time to secure jobs, and employee satisfaction result in lower economic costs for integrating immigrants. The V4 countries and Malta have achieved the best results in the analyzed indicators. This suggests that migration policies in these countries are designed to minimize their burden from immigrants in terms of labor market participation.

We assume that countries accepting quota numbers of immigrants face greater challenges with integration and incur higher costs. From an economic perspective, it is more advantageous for EU27 countries to attract immigrants with necessary skills and to accept young people willing to study and work in the host country. It has become essential to incorporate immigrants into lifelong learning programs.

In our study, we identified which EU27 countries are least burdened by immigrants regarding their labor market participation. We have successfully achieved this goal. Our study contributes to expanding findings on immigrant integration.

Acknowledgements

This paper was created within the project VEGA reg. n. 1/0068/24 „Socio-economic challenges of the Slovak migration policy in the context of the development of the situation on the labor market“.

REFERENCES

Autiero, G. & Nese, A. (2024). Integration of immigrant women in Europe: a multifaceted approach. *International Journal of Manpower, 45*(7), 1281-1308. [acc.: 2024-10-11] Retrieved from: https://doi.org/10.1108/IJM-05-2023-0243

Bajusová, J. & Šlosár, D. (2019). *Application of systems theory in the integration of Immigrants*. Košice: UPJŠ Košice. 104 p.

Cassie, A. (2022). Barriers to Career Advancement Among Skilled Immigrants in the US, *Ballard Brief*: *2022*(3), 1-29. Article 9. [acc.: 2024-10-22]. Retrieved from: https://scholarsarchive.byu.edu/ballardbrief/vol2022/iss3/9

Eurostat (2024, 1). Demographic balances and indicators by type of projection. Online data code: proj_23ndpi [online]. [acc.: 2024-10-12]. Retrieved from: https://ec.europa.eu/eurostat/databrowser/view/proj_23ndbi/default/table?lang=en&category=proj.proj_23n

Eurostat (2024, 2). Immigration by age group, sex and country of birth [migr_imm3ctb] [online]. [acc.: 2024-10-12]. Retrieved from: https://ec.europa.eu/eurostat/databrowser/view/MIGR_IMM3CTB/default/table?lang=en

Eurostat (2024, 3). Pact on Migration and Asylum**.** [online]. [acc.: 2024-10-12] Retrieved from: https://home-affairs.ec.europa.eu/policies/migration-and-asylum/pact-migration-and-asylum_sk

Eurostat (2024, 4). Employment rates by sex, age and country of birth (%). [lfsq_ergacob] [online]. [acc.: 2024-10-22]. Retrieved from: https://ec.europa.eu/eurostat/databrowser/view/lfsq_ergacob/default/table?lang=en&category=labour.employ.lfsq.lfsq_emprt

Eurostat (2024, 5). Foreign-born population by time required to find the first paid job in the host country, sex, age and country of birth [lfso_21obst04] [online]. [acc.: 2024-10-22]. Retrieved from: https://ec.europa.eu/eurostat/databrowser/view/lfso_21obst04/default/table?lang=en&category=labour.employ.lfso.lfso_21.lfso_21obst

Eurostat (2024, 6). Employment by job satisfaction, sex, age, country of birth and educational attainment level. [lfso_21jsat01] [online]. [acc.: 2024-10-22]. Retrieved from: https://ec.europa.eu/eurostat/databrowser/view/lfso_21jsat01/default/table?lang=en&category=mi.mii.mii_lfso.lfso_21_cc.lfso_21jsat_cc

Eurostat (2024, 7). Model questionnaire for the module 2021 on “Labour market situation of migrants and their immediate descendants”. [online]. [acc.: 2024-10-12] Retrieved from: https://ec.europa.eu/eurostat/documents/1978984/6037334/Model_questionnaire_Module_2021/0d5757ea-d9dd-9408-b662-9c47cec644e5

Eurostat (2024, 8). Immigration by age group, sex and level of human development of the country of birth. migr_imm10ctb [online]. [acc.: 2024-10-22]. Retrieved from:

https://ec.europa.eu/eurostat/databrowser/view/migr_imm10ctb/default/table?lang=en&category=migr.migr_cit.migr_immi

Fouka, V. (2024). State Policy and Immigrant Integration. Annual review of political science 27, 25-46. [acc.: 2024-10-22]. [online]. Retrieved from: https://doi.org/10.1146/annurev-polisci-051921-102651

Gathmann, Ch. & Garbers, J. (2023). Citizenship and integration, *Labour Economics*, 82, 2023, [acc.: 2024-10-22]. Retrieved from: https://doi.org/10.1016/j.labeco.2023.102343.

Jablonský, J. & Dlouhý, M. (2004). *Models for evaluating the efficiency of production units.* Praha: Professional Publishing. 183 p.

Kanas, A. & Kosyakova, Y. (2024). Editorial: Migration and integration: tackling policy challenges, opportunities and solutions. *Front. Hum. Dyn.* 6:1394331. 1-3. doi: 10.3389/fhumd.2024.1394331 [acc.: .2024-10-22]. [online]. Retrieved from: https://www.frontiersin.org/journals/human-dynamics/articles/10.3389/fhumd.2024.1394331/full

Laurentsyeva, N. & Venturini, A. (2017). The Social Integration of Immigrants and the Role of Policy – A Literature Review. This article is part of Integration of Immigrants in European Labour Markets. Intereconomic. 52(5). 285-292. [acc.: 2024-10-22]. [online]. Retrieved from:https://www.intereconomics.eu/contents/year/2017/number/5/article/the-social-integration-of-immigrants-and-the-role-of-policy-a-literature-review.html

Niemann, L., Naudascher, H., Kuyumcu, U. *et al.* (2024). How Long Are You Gonna Stay?" Implications of Residents' Perceptions of Refugees' Occupational Future Time Perspective in Receiving Countries. *Int. Migration & Integration* 25, 1423–1443 (2024). [acc.: 2024-10-22]. [online]. Retrieved from: https://doi.org/10.1007/s12134-024-01117-0

Okafor, O. N. & Kalu, K. (2024). Integration challenges, immigrant characteristics and career satisfaction for immigrants in the field of accounting and finance: An empirical evidence from Canada, *Critical Perspectives on Accounting*, 99, 2024, 102602. [online]. [acc.: 2024-10-12]. Retrieved from: https://doi.org/10.1016/j.cpa.2023.102602.

Penninx, R. et al. (2004). *Citizenship in European Cities: Immigrants, Local Politics and Integration Policies*. Aldershot: Ashgate

Portes, J. (2019). The Economics of Migration. *Contexts*, *18*(2), 12-17. [online]. [acc.: 2024-10-12]. Retrieved from:https: //doi.org/10.1177/1536504219854712

Stejskal, J., Nekolová, K. & Rouag, A. (2015). The Use of the Weighted Sum Method to Determine the Level of Development in Regional Innovation Systems – Using Czech Regions as Examples. *Economic Journal*. 63(3). 239-258.

Talani, L.S. (2024). The Labour Market for Immigrants: Evidence from Data. *Social Sciences*. 2024; *13*(10), 556, 1-23. [acc.: 2024-10-22]. Retrieved from: https://doi.org/10.3390/socsci13100556

Williams, A., Cai, Y. (2024). Insights into Weighted Sum Sampling Approaches for Multi-Criteria Decision Making Problems. DOI:10.48550/arXiv.2410.03931. Retrieved from: https://arxiv.org/pdf/2410.03931v1

Contact:

Eva Grmanová, doc., RNDr., PhD.
Alexander Dubcek University of Trenčín
Študentská 2
911 50 Trenčín
Slovakia
e-mail: eva.grmanova@tnuni.sk

IDENTIFYING AI-REPLACEABLE JOBS IN SMES: A PROCESS PROPOSAL

Katarína HAVIERNIKOVÁ, Jozef KLUČKA

Abstract

Artificial Intelligence (AI) implementations focus on simple and complex repetitive activities. AI technology can generate "pseudo-original" solutions from data analysis. Therefore, the impact of the implementation on the workforce, and employees in companies and hence the macroeconomic and other implications of the implementation are questionable. The main aim of the paper is to propose a process to identify the workplaces that can be assumed will be replaced by AI in the 2023-2027 horizon. The set of enterprises is limited to a small sample due to the high laboriousness of the proposed solution procedure. Based on the research findings from 6 enetrprises across different sectors, the results show that AI implementation varies significantly across sectors, with highest impact identified in case of workplaces related to marketing activities and data analysis.

Key words:
Artificial intelligence, model, digital technologies, automatization

JEL Classification M12, M54, O32 https://doi.org/10.52665/ser20240202

INTRODUCTION

During times of change, there is intellectual, economic, and political competition between groups seeking to control systems relationships, and feedback, and ultimately determine its new equilibrium. In 1811, the Luddite protest began as a reaction by weavers to the deployment of looms to replace their positions/human labor. The aim was to increase productivity by replacing stereotypical human labor. The Industrial Revolution began in the textile industry in the 19th century. Great Britain pioneered the first Industrial Revolution where hand production methods started from 1720 to 1840. Several items were produced in this age. Great Britain paved the way for entrepreneurial, legal, and cultural foundations to be set up. The free market economy was introduced which later led to the first Industrial Revolution (Hussain, 2019). Human labor began to be replaced by machines, which led to an increase in productivity, but also to social changes. While the system ultimately settled on a set of institutional arrangements preferred by British industrialists, at the time, the Luddites presented an alternative that highlights how, in times of transformation, possible future states are contested (McGowan & Geobey, 2022).

During the following period, society has gone through further industrial revolutions, up to the current fourth, characterized by digital technologies, artificial intelligence (AI), robotics, blockchain, and the Internet of Things (IoT). Artificial intelligence is one of the key aspects of this period. Since the 1950s, when McCarthy introduced the term Artificial Intelligence, the AI field has developed in two dimensions: human-centered and rationalist approaches (Borges et al., 2021). In contemporary organizational settings, artificial intelligence (AI) can be regarded as a technology implemented to emulate human performance. It possesses the capacity to derive its conclusions through a process of learning, thereby enhancing human cognition or even substituting for humans in various tasks (Jiang et al., 2022).

Various studies show numerous aspects of AI. Artificial Intelligence implementations focus on both simple and complex repetitive activities. At the same time, however, it can also reproduce data-based art and literary works (photos, paintings, essays, stories) as well as new creative works. AI technology can generate "pseudo-original" solutions from data analysis (Chiu et al., 2023; Jiang et al., 2022). Thus the possibility of incorporating them into processes that are not limited to repetitive and simple activities exists.

The correctness of AI's answers/responses is determined by the training data and the methods that generate answers/solution suggestions from the data. Therefore, the inaccuracies/errors generated do not reflect the intention of the AI application but rather the inadequacy of the training data or a model that was used inappropriately. AI does not have a true value system and is unable to form its worldview. At the same time, it is important to understand that AI is just a framework for processing data and performing tasks and that it does not have the actual consciousness or experience that is important for the brain to function. Although comparing AI to the workings of the brain is inaccurate, behind many of the models there is an attempt to mimic this. The author Odor (2022) lists five basic brain functions - long-term memory, attention, environmental sensation, movement, and value systems - for control and proper brain functioning. If we try to specify the basic functions of the brain and the ability of AI to mimic these functions (which also suggests the possibility of replacing human resources) we can illustrate this effort with Table 1.

Table 1 Brain functions and their limitations by AI

Functions of the brain	AI - the possibility of imitation
Long-term memory	yes - own by computer
Attention	yes – with regard to available hardware and software
Perceptions of surroundings	yes – disponibility of sensors
Sensations of movement	yes – disponibility of sensors
Value system	no

Source: author's elaboration

A lack of self-awareness characterizes AI. The error that AI produces is not to gain an unwarranted benefit but because of a lack of training data leading to an erroneous conclusion, or the application of a model that misinterprets the data. The AI error does not mimic a deliberate action. In the case of artificial intelligence (AI), we can say that some of these functions are partially transferred to AI systems. For example, AI systems can use data from the external environment and perceive it through sensors. AI may also be able to perform movements through its robotic limbs or software simulations. So, while AI may perform certain functions similar to those of the brain, it cannot be completely compared to the brain.

By AI we mean a wide range of methods and models (hardware and software) that can perform not only routine activities with a high level of reliability but also propose solutions to decision-making problems based on data analysis. Their scope is very wide and affects the workplaces in various sectors.

Digital transformation has already become part of every economic branch and the lifestyle of the enterprise. AI is considered a priority and the size of cyberspace becomes vital and becomes one of the main topics of governments' agendas (Veglianti et al., 2022). Companies understand that data analytics, "big data" and customer experience are top priorities. Working with data is a competitive advantage for future development, and therefore if when AI implementation is not a priority the development towards this trend after hardware and application know-how development will certainly be a priority in the future. The ability to develop such a system requires improving human skills and existing models, and thus an overall ability to keep up with change. From an application perspective, industries with a good data foundation (such as finance, healthcare, automotive, and retail) have relatively mature AI application scenarios (Zhang & Lu, 2021).

AI has been successfully applied in the financial markets. At the current stage of AI, the authors (Milana & Ashta, 2021) argue that it is possible to find productive applications of AI that impact the everyday lives of the average consumer with facial and voice recognition systems, machine interaction with human voices, data collection, and organization of market information, NLP

(Natural Language Processing), financial advice, fraud and risk assessment, credit management, pricing, applications leading to fintech, and integration with other emerging technologies such as cryptocurrencies and blockchain.

Today, AI is also playing an important role in the field of medicine. AI has the potential to make substantial progress toward the goal of making healthcare more personalized, predictive, preventative, and interactive (Khan et al., 2023). It was identified that AI continues to significantly outperform humans in terms of accuracy, efficiency, and timely execution of medical and related administrative processes. Benefits for patients map directly to the relevant AI functionalities in the categories of diagnosis, treatment, consultation, and health monitoring for self-management of chronic conditions (Ali et al., 2023).

The use of AI is also becoming increasingly important in the retail sector. Authors Fu et al. (2023) identified the following factors that affect AI adoption in the retail industry: data usefulness, the difficulty of data acquisition, AI system usefulness, organizational change capability, and enhancement of customer value. We found that after AI adoption, top management in retail prioritized factors related to business performance, such as enhancing customer value.

AI has a wide range of implications for media and entertainment, including marketing techniques, efficiency, customization, and content creation. Content production is becoming more dynamic and focused, as AI algorithms evaluate vast amounts of data to create content specifically for target audiences (Prasad & Makesh, 2024). On the other side, representatives of the creative sector warn that AI is using copyrighted content without the authors' permission and compensation. Artificial intelligence is effectively 'training' itself on the results of the work of those it may soon replace. Adopting generative AI raises legitimate concerns, particularly in intellectual property rights and copyright adherence (Amankwah-Amoah et al., 2024).

Tourism has experienced significant shifts in marketing, engagement, and memory-making through innovative interactions and co-creations with AI chatbots, smart room controls, and other AI-powered systems (Miao & Yang, 2023). The authors (Samala et al., 2022) analyzed the use of artificial intelligence technologies in the provision of tourism services in the following areas: Facial recognition regulating travel facilities; virtual reality regulating travel, tourism & hospitality related factors; chatbots regulating destination tourism infrastructure & tourist infrastructure facilities; robots regulating hospitality related facilities; google maps regulating general infrastructure & tourist infrastructure facilities; language translators regulating destination tourism infrastructure; optimization services regulating tourist infrastructure. Their research has confirmed that both tourism businesses and their customers will benefit from using AI. Enterprises in the travel industry will be able to better control business processes that will be largely automated and business operations and protocols will be simplified in nature. Tourism customers in the tourism industry will benefit from a higher level of satisfaction.

The increasing relevance of AI in marketing is also witnessed by the emergence of several literature reviews on the topic. Marketers are using language AI as tools for sales, payment processors, and engagement managers to improve the user experience. AI can help marketers by identifying relevant content that users want to read. It can also help marketers with email campaigns, allowing them to maximize results. Customers can now rely on chatbots to do the buying process for them, rather than having to figure it out for themselves (Haleem et al., 2022). The skilled work with data brings significant effects on the marketing of the company, namely: if we know how to work with data more accurately, we will not have to make an offer for a given segment, but for a specific client (increase the response rate). In marketing, this corresponds to the concept of concentrated marketing, which is extremely targeted thanks to data work - not to a narrow group but to an individual customer. The effect is to increase efficiency and the expectation of increased competitiveness and sustainability of the company.

AI is also used in practical applications in geodesy like data analysis, deformation analysis, navigation, network adjustment, and optimization of complex measurement

procedures (Reiterer et al., 2010). AI in construction can help companies realize value throughout a project's lifecycle, including planning, tendering and funding; procurement and construction; operations and managing assets; and transforming business models. AI in construction helps the industry as a whole overcome some of our toughest challenges, including safety concerns, labor shortages, and cost and schedule overruns (Rao, 2019).

In contrast to the manufacturing sector, the service sector involves a high degree of communication, coordination, and cooperation with the customer. At the same time, it is an intangible, customized "product" with a high degree of customer input. As such, it represents several areas where digitalization can be used to improve productivity and help design ways of working that support learning at work (Link et al., 2020). In the current AI practices, machines predominantly plan, manage, control, and optimize work without appropriately considering human-related input and preferences. However, architects, engineers, managers, clients, and other decision-makers should consider their input into their work to better generate their desired ideas, prototypes, and solutions. For this reason, AI needs to be human-centric (Nabizadeh Rafsanjani & Nabizadeh, 2023). The implications of further automation, especially in the tertiary sector, must be given careful consideration by policymakers and practitioners. It is therefore important for the future to think about how to retrain people and help them to find other jobs.

Automation and its implementation in enterprises is accompanied by a growing demand for experts. AI technologies are increasingly penetrating major industries and disproportionally generating new labor demand for AI-skilled workers (Choi & Leigh, 2024). AI is increasingly integrated also into human resources management (HRM). While the potential of AI to augment the HRM activities within organizations is substantial, concerns regarding its implementation and implications for workforce management and the HRM function as a whole must be addressed to ensure optimal outcomes (Bujold et al., 2024). AI-HRM is a topic beyond the field of HRM because of its interdisciplinary nature, i.e., the development of AI-based human resources (HR) tools depends on progress in technical fields, while implementations of such AI tools and consequences of AI implementations rely on knowledge from social science.(Pan & Froese, 2023). AI has been successfully applied in various HRM functions such as human resource (HR) performance evaluation, employee selection, employee turnover, and others (Qamar et al., 2021). Despite this fact, the topic of AI in HRM is still nascent and underdeveloped compared to other fields. The question is therefore the impact of implementation on the workforce, and employees in companies and related not only microeconomic as well as macroeconomic aspects.

The small and medium-sized business sector represents 95 to 98% of all businesses. In Central Europe with high emphasis on Slovakia, SMEs account for 99% of business units (Mura et al., 2023). Small and medium-sized enterprises (SMEs) have an undersized technical infrastructure. At the same time as developing them, they understand that working with data is a competitive advantage for their future development. AI has a specific position as it gives companies adaptability and polyvalency. The risk is that certain companies cannot access the AI technology. This is particularly the case for SMEs which have neither the financial means nor the expertise, even though the functionalities of AI could be particularly useful for them (Wei & Pardo, 2022). Authors Baabdullah et al. (2021) state three categories of the consequences of AI practices: relational governance, customers' AI-based interactions, and SMEs' AI-enabled performance. Therefore the implementation of AI becomes a priority, and the evolution towards this trend after hardware and application know-how development will be a priority in the future. SMEs' AI readiness depends on IT infrastructure and strategic integration with HR, aligning AI with existing practices, addressing challenges, and considering customer needs to enhance adoption success. AI can help SMEs optimize profits, reach broader customer bases, and improve efficiency (Schwaeke et al., 2024). SMEs need to pay attention to both internal (enterprise development needs, implementation cost, human resources, and top management involvement) and external factors (external market pressure, convenience of AI technology, and policy

support) and their different impacts on intelligent transformation (Wang et al., 2020). The findings of the authors Kumar et al. (2024) suggest to micro and SME (MSME) decision-makers that AI-powered workforce management may help revenue growth, workforce risk reduction, intelligent business and marketing, and thoughtful, innovative, and safe information exchange. MSMEs are required to use AI in information sharing that helps in workforce risk management, business and marketing, and intelligent workforce management that scales economic growth. According to Iliescu (2020) the digital enterprise integrative management framework is based on splitting the transformation into three processes: (1) enterprise core processes that are focused on the maximization of customer value; (2) shared real-time information and operational connectivity which creates a response-based/demand-driven network of supply chain relationships among participating business entities; (3) commitment to operational excellence manifested in the form of customer-centricity. From the author's perspective, an integrated company is defined by five elements: integrated operations, measurement and metrics, financial stewardship, customer accommodation, and human resource development.

Concerns are escalating that robotics and artificial intelligence may displace numerous job roles. In response to this evolving employment landscape, future workers must cultivate innovation skills, identify opportunities, revolutionize industries, and devise inventive solutions to global challenges (Ramachandran et al., 2024). The literature review reveals a research gap regarding AI job replacement in SMEs. While numerous studies examine AI's impact on employment in large corporations, empirical research focusing on job displacement by AI specifically in the SME context is relatively limited. Our research focuses on examining if specific positions or tasks related to them within SMEs, can be potentially replaced by AI implementation. While large enterprises have been the primary focus of AI displacement studies, understanding the impact on SMEs is crucial as they represent a significant portion of the economy. This study aims to identify the positions that might be fully replaceable or which specific tasks within various jobs could be automated through AI implementation in the SME context. This approach allows for a more nuanced understanding of how AI might transform work in smaller organizations, rather than simply replacing entire positions.

The paper proposes a process to identify the jobs/job roles that can be assumed/will be replaced by AI implementation in the 2023-2027 horizon. The set of enterprises is limited to a small sample due to the high labor intensity of the proposed solution procedure. Incorporating the characteristics of individual jobs from the Register of Occupations in the Slovak Republic (Ministerstvo práce, sociálnych vecí a rodiny SR, 2024), it would also be possible to prepare active labor market measures reflecting the expected structural unemployment.

The following research questions (RQs) are addressed to solve the above-mentioned contexts:

RQ1: What is the most common impact of AI on the economic branch?

RQ2: What are the key work positions in selected economic branches that could be replaced by AI implementation?

RQ3: What are the possibilities for applying AI in the horizon of years 2023-2027?

The rest of the paper is structured as follows. Section 2 presents the methodological details of the current study. The analysis and findings are provided in Section 3. Section 4 presents the implications and limitations of the study.

2. METHODOLOGICAL APPROACH

This research is based on a qualitative approach, which enables a deeper understanding of the investigated phenomenon through detailed data collection and analysis. The qualitative approach was chosen due to the need to capture the complexity of the investigated phenomenon and understand it in its natural context. The research uses interpretive phenomenological analysis (IPA), which allows us to investigate how the participants attribute meaning to their life experiences. This approach is suitable for examining individual cases in detail and identifying common themes across cases.

The main method of data collection will be semi-structured interviews, which were conducted according to a pre-prepared interview protocol with enterprises' representatives and analysis of organizational structures and processes. The questions were open-ended, allowing participants to freely express their experiences. The interviews were recorded and then summarized in tabular form.

The population of this study was SME entrepreneurs (owners/managers). To preserve anonymity, the respondents were marked with codes R1 to R6. Six enterprises represented different sectors (culture, tourism, marketing, geodetic and construction works, intermediation of trade with various goods, preparation and implementation of innovation and development projects). The average duration of the interviews was between 30-40 min. The questions were listed as follows:

Q1: Which factors determine the human resource impacts (their quantity) concerning AI implementation?

Q2: Which elements/solutions of the AI implementation may have an impact on human resources in the enterprise?

Q3 Which job positions in the company are possible to be replaced by AI?

The obtained data were analyzed using the method of thematic analysis, while the main themes and patterns in the answers of the respondents were identified. To increase the validity of the research, the method of data triangulation was used, where the answers of respondents from different industries were compared. The results were compiled into clear table 1, which enabled a systematic comparison of the obtained data across industries. Results were categorized based on sectors, number of employees, key activities, AI applicability, and job replacement decisions. As part of the data analysis, the identification of areas where it could be possible to apply AI and the assessment of the potential impact on employment based on the specifics of individual jobs were carried out, based on the Register of Occupations.

3. Findings and discussion

Table 2 gives the summarized answers of the respondents according to their comments on the issues of AI implementation in different job positions in the company. The table also contains a list of occupations listed in the Register of Occupations, focusing on the area in which the company operates and in connection with the job positions that the company has listed. Most companies see the potential of AI as a support tool, not as a complete job replacement. The degree of implementation depends on the type of industry and the nature of the work activities. The greatest potential is in areas with a high proportion of analytical and routine work. Jobs requiring creativity, personal contact, and specialized knowledge are less likely to be replaced by AI.

The results of the conducted qualitative research provide answers to three research questions.

RQ1: What is the most common impact of AI on the economic branch?

The most common impact of AI is in the following areas: *management and administration* - all companies (R1-R6) identified potential in this area; *support processes* - accounting, data analysis, workforce planning; marketing and content creation - particularly R3 and R5 identified a significant impact; *the intensity of the impact varies by sector*, with the lowest impact in the cultural and artistic sector (R1) and the highest in marketing (R3) and commercial intermediation (R5).

RQ2: What are the key work positions in selected economic branches that could be replaced by AI implementation?

Based on the data, the following **positions** can be identified: *marketing:* graphic designers; programmers; specialists in market analysis; creators of marketing content; *tourism:* partial replacement of receptionist activities; support administrative positions; *business mediation*: data analysts.

RQ3: What are the possibilities for applying AI in the horizon years 2023-2027?

The **opportunities for AI applications** vary by industry: *Culture and Arts* (R1): limited opportunities in core business, potential only in support management. *Tourism* (R2): accounting, staff planning, automation of part of reception services. *Marketing* (R3): creative concepts, graphic design, marketing content creation.

Geodesy and Construction (R4): preparation of official documents, and management support activities. *Business mediation* (R5): analysis of large data sets, translations, creation of advertising content, calculations, and analysis, heat maps evaluation, competitor analysis. *Administrative work* (R6): support for SMEs, support to tourism, promotion of social innovation.

Table 2 The summarization of respondents' answers to issues of AI implementation

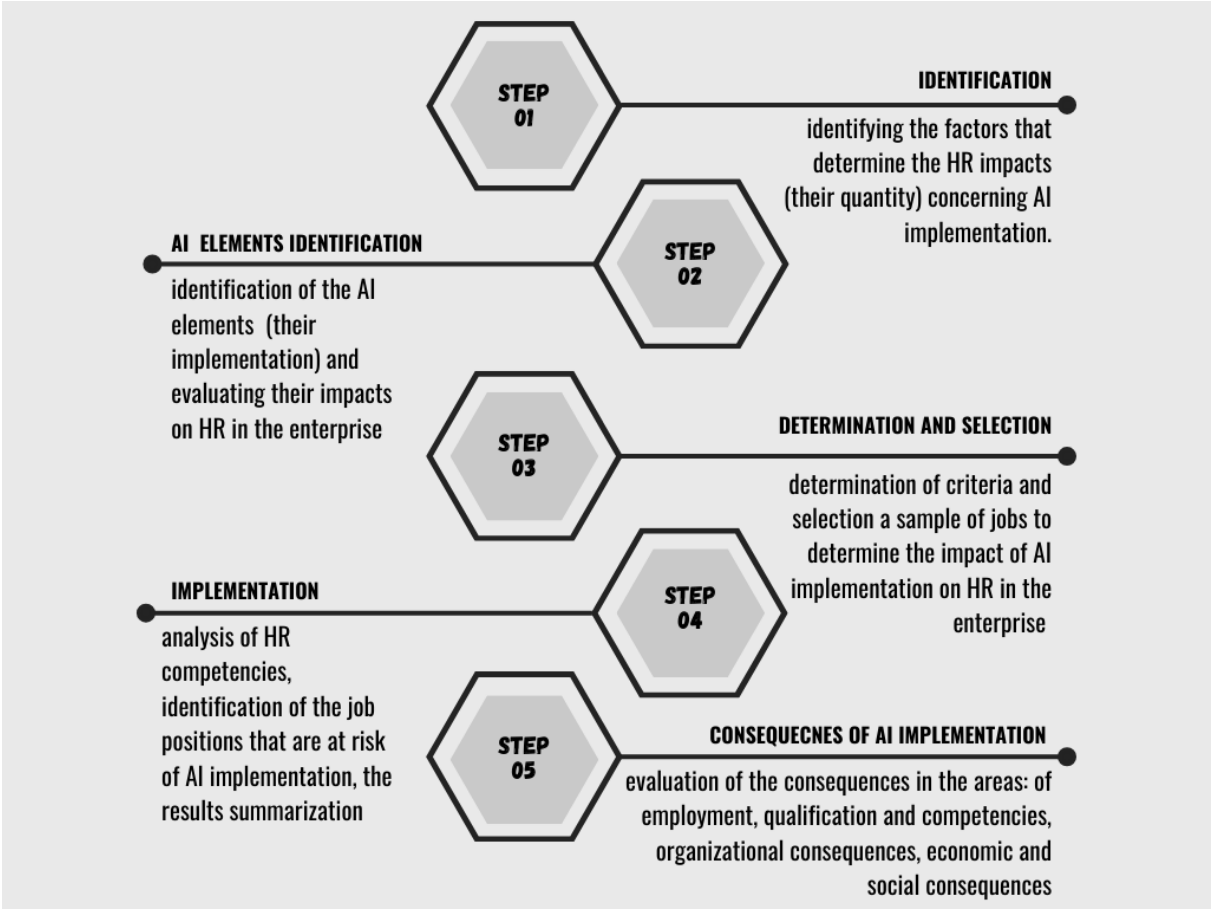
Question	R1	R2	R3	R4	R5	R6
The focus of the company	culture, entertainment, dance performances	hotel, tourism	marketing activities (promotion, market research, projects); internationally active	geodetic and construction work associated with it	intermediation of trade with various goods	preparation and implementation of innovation and development projects
Nr. of employees	8 (fixed)	40 (fixed)	22 (12 fixed, 10 partial)	20 (fixed)	7 (2 fixed, 5 partial)	15 (9 fixed, 6 partial)
Classification of individual employees	no record in the database to this staff job	director, operator, head of the reception, cooks, staff in the kitchen, waitresses, maintenance workers, operator of the relax centre, receptionists, custodians	director, office manager, head of business dept., head of production, financial manager, team leaders; account manager, art director, graphic designers, programmers, photographers, social media administrators, copywriter	Authorized geodesist, mechanical engineer, geologist, geodetic – operations, 1 – general staff	2 directors, 1 accountant,1 IT technic, 1 designer, 2 projectants	1 director, 1 deputy director, 1 administration, 1 professional officer for projects, 1 cameraman, 1 graphic designer, 1 photographer, 1 destination development manager, 1 destination manager, 1 small and medium business support manager, 1 social inclusion and employment specialist, 1 regional product manager, 1 project manager, 1 communications officer
From the set of occupations listed key activities	member of the dance choir	manager, hotel receptionist, cook and chef, helper in the kitchen, waiter,	marketing manager, sales manager, marketing analysis and market research specialist,	authorized surveyor and cartographer, authorized engineer for the construction of	internet sales specialist, sales agent, social media manager, product specialist, marketing	regional and rural development specialist, specialist in the implementation of trade measures,

		employee of the wellness and spa center, hotel receptionist	social media manager,	engineering structures, construction supervisor, construction designer, construction quality control technician, laboratory technician, construction budgeter, calculator, manager (project manager) in the construction industry	analysis and market research specialist, public relations executive (manager), sales executive (manager) , goods dispatcher, goods creation and display control officer, sales representative, internet sales associate, customer care executive (manager), market research executive (manager)	specialist in science, research and innovation development, specialist in public administration in the field of culture, eu funds programming specialist (manager)
The possibility of applying AI in the horizon years 2023-2027	In dancing – 0; in management – potential but without impact on nr. of employees	In hotel activities – impact of AI is limited; in management – potential in accounting, staff planning, part of receptionists agenda	AI is applicable in management – accounting, and in marketing projects – creative concepts, programming, graphic designs	In management – support, preparation of official documents based on the assignments, construction work associated with landscaping	analysis of large data files and databases, translations, creation of advertising and marketing content, calculations and transfers, comparisons, evaluation of heat maps, competitor analysis	SME business support, tourism support, social innovation support
Decision on possible job replacement (yes/no)	no	No (partial managerial activities – support)	Yes (3 persons – in marketing projects)	No	yes (1)	no

Source: author's elaboration

Based on the results of the qualitative study we propose a model for identification of AI replaceable jobs in SMEs that consists of 5 process steps (Figure1).

Figure 1: Proposed model for identification of AI replaceable jobs



Source: author's proposal (2024)

Step 1 consists of identifying the factors that determine the impact of AI implementation on HR (their quantity). It is necessary to investigate internal (organizational changes, new competencies), as well as external (trends in AI, legislation) factors that have an impact on HR. The part of this step is the quantification of how many employees, processes, or business areas and related job positions could be affected by AI. This is necessary to be done due to the evaluation of the range of the AI implementation on HR.

Step 2 identifying the elements/solutions of AI (their implementation) and evaluating their impacts on human resources in the enterprise. The focus is on concrete AI solutions technologies, which will be implemented (chatbots, tools for data analysis, automation of accounting).

Step 3 relates to the determination of the key criteria and the selection of a sample of job positions to determine the impact of AI implementation on HR in the enterprise. Defining the key criteria is necessary (the routine of tasks, the level of human interaction, technology availability of AI tools, costs, risks, and benefits). This step contributes to the ensuring model will be based on real data about job positions which enables to identification of replaceable tasks.

Step 4 consists of three partial steps. The procedure is as follows. For the selected enterprise, the employees - their competencies and other relevant factors will be analyzed; data from the National Occupational Inventory will be used as an information base and compared with the data provided by the enterprises. From the above set, the employees of the enterprise who are at risk of implementing the AI

element/system will be identified. The results achieved for the enterprise will be summarized and the level of job position will be also commented on..

Within **Step 5,** the enterprise should analyze and describe the consequences of the AI implementation on their business in the following areas: employment – the identification of the number of employees in routine positions and development of new positions for the AI implementation, and the identification of the consequences on various jobs positions; qualifications and competencies - statement of the new requirements and types of training of employees; organizational consequences - the impact on effectiveness, productivity and other results and processes in the enterprise; economic and social consequences – the analysis of costs, increasing of productivity, the impact on competitiveness, the analysis of the negative (decrease in employability in some areas, increase in uncertainty among employees) and positive (impact in social aspects, improvement of working conditions, elimination of monotonous and physically demanding tasks) factors.

4. CONCLUSION

The implementation of AI presents an important opportunity for the increase of enterprise efficiency with an impact on productivity and competitiveness, but on the other hand, it brings as well various risks.

This research was focused on the identification of work positions/tasks, which can be replaced by AI in SMEs, based on qualitative research among six Slovak enterprises. We proposed a model that consists of 5 steps and provides a systematic framework for the identification of these challenges and could help enterprises to be prepared for their solution.

Partial conclusions can be also drawn from the cited literature. AI models are characterized by complexity and diversity. AI applications do not only present benefits - some professions and unions feel threatened (beginnings of legal disputes). AI applications are not limited to simple repetitive problems/tasks; their applications are also moving towards specific solutions that integrate data and knowledge in the field (in correspondence with the notion of machine learning). AI applications are based on data and applied methods, so it is important to confront the solutions provided with reality. AI applications represent an important element in the growth of the competitiveness of a company, or a country. AI is becoming part of the company's development strategy. Although conclusions are drawn on the assumptions about the impact of AI on the workforce; it is noted that in the long run, it is problematic to state that AI implementation will lead to an increase in unemployment; similarly, it is also stated that AI will create additional jobs and occupations.

The results of qualitative research showed that AI implementation is limited to services where specific human activity is not required; existing solutions for the future will be coupled with robots and the entire AI complex that will be available for specific activities. AI implementation is possible (although limited for now) in programming and marketing activities. Implementation of AI in management - may include a wide range of problems - associated with hiring employees, their education and training, performance evaluation, and contact with customers for orders. A limitation/risk of AI applications is the requirement for skilled human resources for communication and financial resources to purchase and operate the relevant AI models. Going forward, the key is to focus on the training and development of employees so that they are ready to work with AI technologies.

The limitation of the research is the relatively small research sample, which, however, due to the exploratory nature of the study, provides sufficient insight into the investigated issue in the context of various industries.

Further research should explore the long-term impacts of AI implementation on the labor market in different sectors.

Acknowledgements

This work was supported under the research project No. VEGA No. 1/0718/22 Human resources development in small and medium sized enterprises in the context of the 21st century challenges.

REFERENCES

Ali, O., Abdelbaki, W., Shrestha, A., Elbasi, E., Alryalat, M. A. A., & Dwivedi, Y. K. (2023). A systematic literature review of artificial intelligence in the healthcare sector: Benefits, challenges, methodologies, and functionalities. Journal of Innovation & Knowledge, 8(1), 100333. https://doi.org/10.1016/j.jik.2023.100333

Amankwah-Amoah, J., Abdalla, S., Mogaji, E., Elbanna, A., & Dwivedi, Y. K. (2024). The impending disruption of creative industries by generative AI: Opportunities, challenges, and research agenda. International Journal of Information Management, 79, 102759. https://doi.org/10.1016/j.ijinfomgt.2024.102759

Baabdullah, A. M., Alalwan, A. A., Slade, E. L., Raman, R., & Khatatneh, K. F. (2021). SMEs and artificial intelligence (AI): Antecedents and consequences of AI-based B2B practices. Industrial Marketing Management, 98, 255–270. https://doi.org/10.1016/j.indmarman.2021.09.003

Choi, T., & Leigh, N. G. (2024). Artificial intelligence's creation and displacement of labor demand. Technological Forecasting and Social Change, 209, 123824. https://doi.org/10.1016/j.techfore.2024.123824

Haleem, A., Javaid, M., Asim Qadri, M., Pratap Singh, R., & Suman, R. (2022). Artificial intelligence (AI) applications for marketing: A literature-based study. International Journal of Intelligent Networks, 3, 119–132. https://doi.org/10.1016/j.ijin.2022.08.005

Iliescu, M.E. (2020) Barriers to digital transformation in SMEs: a qualitative exploration of factors affecting erp adoption in Romania. In Brătianu, C. et al. (Eds.) Strategica, pp. 453 – 461. ISBN: 978-606-749-508-9

Khan, B., Fatima, H., Qureshi, A., Kumar, S., Hanan, A., Hussain, J., & Abdullah, S. (2023). Drawbacks of Artificial Intelligence and Their Potential Solutions in the Healthcare Sector. Biomedical Materials & Devices, 1(2), 731–738. https://doi.org/10.1007/s44174-023-00063-2

Kumar, M., Raut, R. D., Mangla, S. K., Ferraris, A., & Choubey, V. K. (2024). The adoption of artificial intelligence powered workforce management for effective revenue growth of micro, small, and medium scale enterprises (MSMEs). Production Planning & Control, 35(13), 1639–1655. https://doi.org/10.1080/09537287.2022.2131620

Link, M., Dukino, C., Ganz, W., Hamann, K., & Schnalzer, K. (2020). The Use of AI-Based Assistance Systems in the Service Sector: Opportunities, Challenges and Applications. In I. L. Nunes (Ed.), Advances in Human Factors and Systems Interaction (Vol. 1207, pp. 10–16). Springer International Publishing. https://doi.org/10.1007/978-3-030-51369-6_2

Miao, L., & Yang, F. X. (2023). Text-to-image AI tools and tourism experiences. Annals of Tourism Research, 102, 103642. https://doi.org/10.1016/j.annals.2023.103642

Milana, C., & Ashta, A. (2021). Artificial intelligence techniques in finance and financial markets: A survey of the literature. Strategic Change, 30(3), 189–209. https://doi.org/10.1002/jsc.2403

Ministerstvo práce, sociálnych vecí a rodiny SR. (2024). Register zamestnaní. [online]. Available at: https://www.sustavapovolani.sk/register-zamestnani/.

Mura, L., Zsigmond, T., Bakó, F., & Marcell, K. (2023). New Organizational Environment Types Based on Garvin and Quinn – the Case of Slovakian Small and Medium Enterprises. TEM Journal, 691–699. https://doi.org/10.18421/TEM122-12

Nabizadeh Rafsanjani, H., & Nabizadeh, A. H. (2023). Towards human-centered artificial intelligence (AI) in architecture, engineering, and construction (AEC) industry. Computers in Human Behavior Reports, 11, 100319. https://doi.org/10.1016/j.chbr.2023.100319

Odor, L. (2022). Rýchlokurz geniality. N Press. 655 s. ISBN 978-80-8230-091-1.

Pan, Y., & Froese, F. J. (2023). An interdisciplinary review of AI and HRM: Challenges and future directions. Human Resource Management Review, 33(1), 100924. https://doi.org/10.1016/j.hrmr.2022.100924

Prasad, R., & Makesh, D. (2024). Impact of AI on Media & Entertainment Industry. In Pandey et al. (Eds): Media & Journalism Transformations-Emerging Trends and Paradigm Shifts, pp. 41-71. Eureka Publications. 308 pg. ISBN-10: 8119567307, ISBN-13: 978-8119567300.

Ramachandran, Kk., Raju, V., Karthick, K., Lakshmi, Baba Gnanakumar, P., & Deepa, M. (2024). Rise of AI: Prediction of Job Replacements Based on the Evolution of Artificial Intelligence and Robots Intensification. 2024 International Conference on Advances in Computing, Communication and Applied Informatics (ACCAI), 1–6. https://doi.org/10.1109/ACCAI61061.2024.10602094

Rao, S. (2019). The benefits of AI in construction. [online]. Available at: https://www.sbeinc.com/files/PDFNewsletter/March%206,%202023%20SBE%20Today%20Newsletter.pdf

Reiterer, A., Egly, U., Vicovac, T., Mai, E., Moafipoor, S., Grejner-Brzezinska, D. A., & Toth, C. K. (2010). Application of artificial intelligence in Geodesy – A review of theoretical foundations and practical examples. Journal of Applied

Geodesy, 4(4). https://doi.org/10.1515/jag.2010.020
Samala, N., Katkam, B. S., Bellamkonda, R. S., & Rodriguez, R. V. (2022). Impact of AI and robotics in the tourism sector: A critical insight. Journal of Tourism Futures, 8(1), 73–87. https://doi.org/10.1108/JTF-07-2019-0065
Schwaeke, J., Peters, A., Kanbach, D. K., Kraus, S., & Jones, P. (2024). The new normal: The status quo of AI adoption in SMEs. Journal of Small Business Management, 1–35. https://doi.org/10.1080/00472778.2024.2379999
Veglianti, E., Li, Y., Magnaghi, E., & De Marco, M. (2022). Understanding artificial intelligence: Insights on China. Journal of Asia Business Studies, 16(2), 324–339. https://doi.org/10.1108/JABS-10-2020-0391
Wang, X., Lei, N., & Hou, Y. (2020). How does human resource department's client relationship management affect sustainable enterprise performance—In the context of artificial intelligence? INTERNATIONAL JOURNAL OF TECHNOLOGY MANAGEMENT, 84(1–2), 50–69.
Wei, R., & Pardo, C. (2022). Artificial intelligence and SMEs: How can B2B SMEs leverage AI platforms to integrate AI technologies? Industrial Marketing Management, 107, 466–483. https://doi.org/10.1016/j.indmarman.2022.10.008
Zhang, C., & Lu, Y. (2021). Study on artificial intelligence: The state of the art and future prospects. Journal of Industrial Information Integration, 23, 100224. https://doi.org/10.1016/j.jii.2021.100224

Contact:

doc. Ing. Katarína Havierniková, PhD:
Faculty of Social and Economic Relations
Alexander Dubček University of Trenčín
Študentská 3, 911 50 Trenčín
Slovak Republic
Email: katarina.haviernikova@tnuni.sk

doc. Ing. Jozef Klučka, PhD.
University of Žilina
Faculty of Security Engineering
Univerzitná 8215/1, 010 26 Žilina, Slovak republic
e-mail: jozef.klucka54@gmail.com

THE ROLE OF HUMAN CAPITAL IN THE ERA OF DIGITAL ECONOMY. A SYSTEMATIC LITERATURE REVIEW

Jakub HOLÚBEK, Jana MASÁROVÁ

Abstract

Digitalisation plays a key role in today's economy, where businesses need to invest in developing the digital competences of their human capital to remain competitive. Human capital is thus becoming an essential element of the digital transformation process. In this context, increasing investment in human capital is an essential strategy to foster innovation and sustainable growth. Although the existing literature addresses various aspects of human capital in the digital economy, a systematic review of the most relevant research areas is still lacking. The aim of this study is therefore to identify current research directions regarding the role of human capital in the digital era. Based on an analysis of peer-reviewed articles from the Web of Science database, published in SSCI journals in Q1 and Q2 categories, we identified key research areas using the PRISMA method. The most frequently researched topics include the importance of human capital, the development of digital competencies, investment in innovation and business performance. This study provides a systematic literature review that can serve as a foundation for future research initiatives in the digital economy and human capital development.

Key words:
digital economy, Human capital, Digital transformation, Innovation

JEL Classification M12, M14, M15. M20 https://doi.org/10.52665/ser20240203

INTRODUCTION

Today, we are witnessing rapid digital and technological changes that are shaping the way companiesoperate and, more importantly, changing established work processes. (Hossain et al., 2024). These changes involve integrating elements of digital transformation into all aspects of the enterprise (Liu et al., 2024). The speed at which businesses adapt to these changes has become a critical factor for competitiveness in the current economy (Ferrer-Serrano et al., 2024). Human capital plays a major role in this adaptation process (Stephany & Teutloff, 2024; Van et al., 2023). Increasing competitive pressures are forcing firms to promote and develop their human capital, especially their digital competences (Chaudhuri et al., 2023; Heubeck & Meckl, 2022; Hossain et al., 2024). Continuous learning is essential, especially because human capital represents a source of innovative and creative thinking that machines are not yet able to fully replace (Ji et al., 2023). Keegan & Meijerink (2023) add that human capital is a major key to moving forward and to maintaining a company's competitiveness. Not only businesses but also universities are already responding to this fact and are increasingly trying to educate students in digital competencies so that they are more prepared for working life (Canal et al., 2024; Ji et al., 2023; Moncada et al., 2024).

Empirical findings in recent years highlight the role of human capital as a source of innovative progress (Cabrilo et al., 2024). Therefore, Canal et al. (2024) in their research call for transforming education systems so that future employees acquire the necessary digital competencies associated with business transformation before they enter the workforce. They also add that higher education in particular has a significant impact for the current digital economy and for human capital development. Ji et al, (2023) add that it is essential to teach students innovative competencies through the development of higher education. Fostering high-quality development is essential for building talents who bring innovation in the current digital era. It is the ability to innovate and the subsequent investment support that is essential for businesses to remain competitive (Moncada et al., 2024). At the same time, human capital plays a key role in economic development precisely because of the innovative

capabilities that enhance business performance (Simionescu et al., 2021).

The authors of numerous academic studies agree that human capital is an essential component in the era of the digital economy. Despite this research, a systematic and comprehensive view of the role of human capital in the digital economy is still lacking. Therefore, the aim of this research is to identify current research directions in the field of human capital and the digital economy. In addition to identifying the main research themes, two research questions are identified to complement the systematic literature review.

RQ1: What keywords do authors use most often in their publications?

RQ2: Which authors are the most cited on the subject?

For the purpose of gathering the necessary literature, the Web of Science database was used, where only journals indexed in SSCI in the categories of management and economics were identified as Q1 and Q2. Books and conference proceedings were not included in the systematic literature review. The PRISMA method was used for the systematic literature review (Page et al., 2021). Bibliometric analysis using VOSviewer was used to identify keywords and most cited authors.

The following chapters explain the methodological procedures, in particular the data collection procedures and the way of their subsequent evaluation. Then, the most relevant research themes for the period 2020-2024, which were identified in the systematic literature review, are presented in the results and discussion. Implications for science and practice are also presented, and finally, the most significant results, research strengths and weaknesses, and suggestions for further research are summarised.

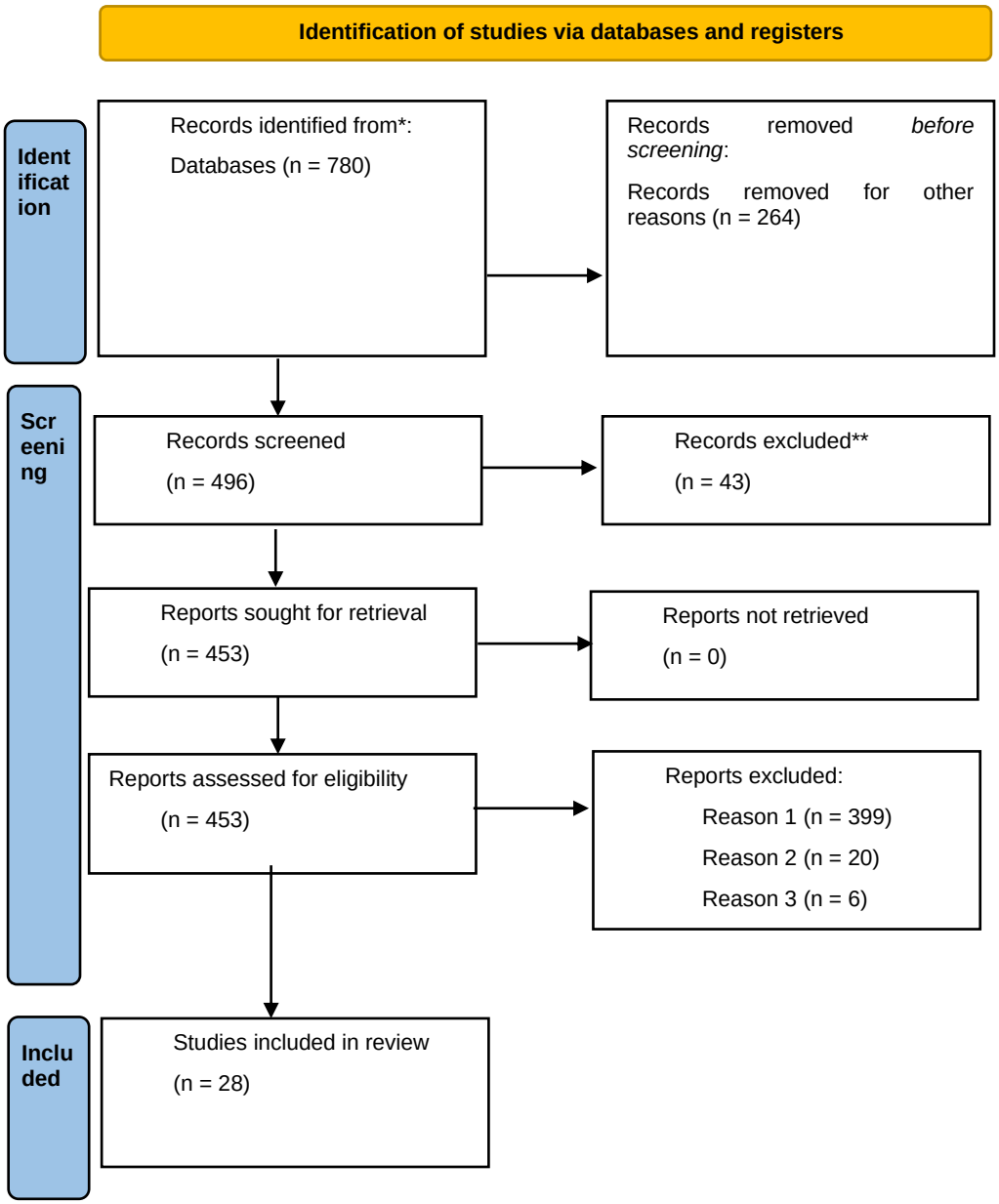
2. RESEARCH METHODS

A sample of publications (n=28) was used in the research. This sample includes publications that directly address the issue of 'human capital and the digital economy'. They were published between 2020 and 2024 in journals indexed in the SSCI Web of Science scale as Q1 and Q2. Based on the ranking of the journals at the top of the SSCI scale, it is possible to define their quality and importance in terms of contributions to science. The data collection itself was carried out through the Web of Science database, which provides a wide range of high quality peer-reviewed journals. For the purpose of selecting and retrieving relevant publications, the PRISMA method was used. PRISMA contains checklists with seven sections and items that govern the areas of the systematic literature review, such as eligibility criteria, sources of information, search strategy, selection process, data collection process, and an elaborate flow chart (Page et al., 2021). The main advantages of the PRISMA method are the adherence to strict rules that lead to the presentation of all necessary information to assess credibility and transparency and, above all, the elimination of subjective bias (Rózsa et al., 2023). The final PRISMA selection and selection process is illustrated in Figure 1.

In a first step, keywords (human capital and digital economy) were identified and used to search for published articles (n=780). Next, publications were filtered based on the span of 2020 to 2024 (n=496). We focused exclusively on articles, while conference papers and books were not considered (n=453). Subsequently, the management and economics categories, the SSCI index, and the filtered journals that ranked as Q1 and Q2 in the SSCI scale were determined (n=28). The filtering of journals was performed using the Journal Citation Report tool. The PRISMA method resulted in 28 articles published in 20 journals.

To complement the systematic literature review, two research questions were set. Using bibliometric analysis, the keywords most frequently used by the authors were identified. In addition to the identification of keywords, the most cited authors in the subject were identified through bibliometric analysis.

Figure 1: PRISMA cell selection process



Source: Processed by the authors

In a first step, keywords (human capital and digital economy) were identified and used to search for published articles (n=780). Next, publications were filtered based on the span of 2020 to 2024 (n=496). We focused exclusively on articles, while conference papers and books were not considered (n=453). Subsequently, the management and economics categories, the SSCI index, and the filtered journals that ranked as Q1 and Q2 in the SSCI scale were determined (n=28). The filtering of journals was performed using the Journal Citation Report tool. The PRISMA method resulted in 28 articles published in 20 journals.

To complement the systematic literature review, two research questions were set. Using bibliometric analysis, the keywords most frequently used by the authors were identified. In addition to the identification of keywords, the most cited authors in the subject were identified through bibliometric analysis.

The methods used bring concrete limits. The main limitation of the PRISMA method is the fact that its results are quantitative in nature. It relies on quantitative data and does not take into account the quality of the individual variables that enter into it. Therefore, it is necessary to have clearly defined rules for the selection of the sample that enters the method, e.g. by filtering only the most reputable journals. Similarly, the limitation of bibliometric analysis is the restriction to quantitative data only. Thus, high quality articles that are published in less prominent journals are not included in the given sample that enters the analysis. Another limitation is that bibliometric analysis assesses quality based on the number of citations of a given article. A final limitation is that the bibliometric analysis ignores the content context of the article and relies solely on numerical values.

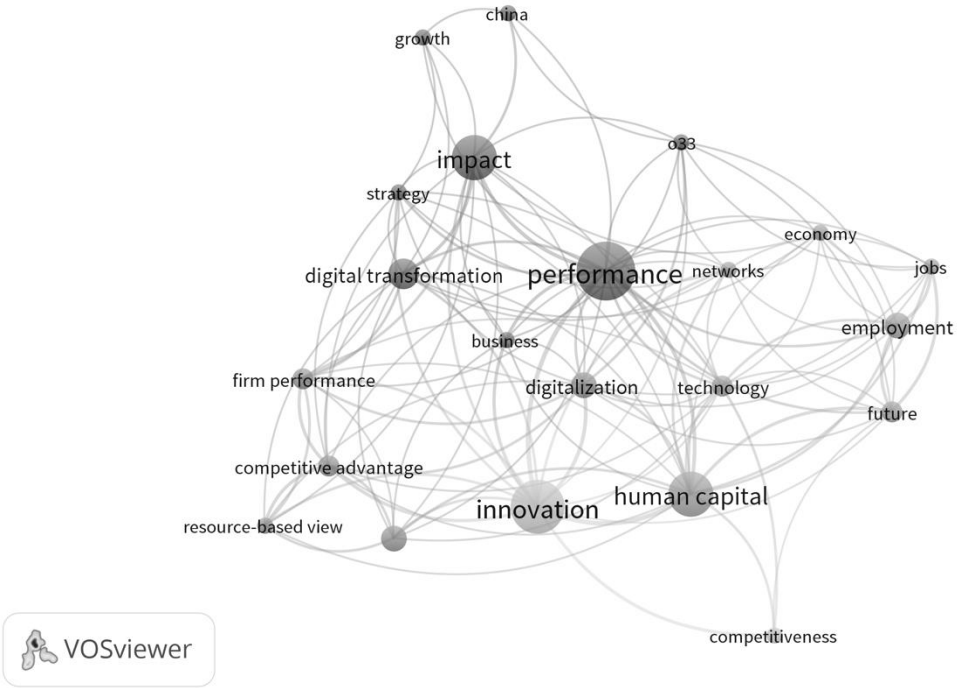
3 FINDINGS AND DISCUSSION

Current research published between 2020 and 2024 mostly points to the fact that human capital has an indispensable role to play in today's digital economy. Human capital is seen as a vehicle for innovation, without which businesses would not be able to sustain their competitiveness (Simionescu et al., 2021). For example, research Hossain et al., (2024) aimed to provide a model to enhance the digitalisation of SMEs. The authors concluded that human capital plays an indispensable role in bringing strategic innovations that contribute to the digitalization of SMEs. Similar findings were also reached by Keegan & Meijerink, (2023) who add that human capital is an essential element of enterprise value creation. Therefore, it is important to continuously educate human capital and develop their digital competencies. Ji et al., (2023) state that the promotion and development of universities is required and necessary in this new era. The aim of their research was to investigate how high-quality higher education can provide innovative solutions in economic development decision-making in the digital economy era. The findings showed that Chinese regions that have higher quality universities perform better economically than regions that have fewer or no universities. The overall findings suggest that high-quality digital competency development is necessary not only for businesses to remain competitive but also for regions to grow economically. In the same way, research Canal et al, (2024) concludes that higher education has a major impact on boosting the economy and developing human capital.

The main role of human capital is to deliver innovations that support digital transformation and business performance (Chaudhuri et al., 2023; Chen et al., 2024). Businesses are constantly compelled to invest in these innovations. Research conducted by Moncada et al. (2024) found that businesses most often invest in innovations that were delivered by human capital with the highest education and most advanced digital competencies. Further, the research Qin et al, (2024) revealed that SMEs are also compelled to invest in research and development of new innovations to maintain performance and competitiveness. Yu et al, (2024) add that enhancing investment in enterprise innovation through digital transformation is an important strategy to promote innovation across the market. Thus, digital transformation facilitates technological innovation, promotes human capital and thus contributes to higher enterprise performance (Cabrilo et al., 2024; Chaudhuri et al., 2023; W. Yu et al., 2023; Zhao & Fang, 2023).

The main objective of the research was to identify current research directions in the field of human capital and the digital economy. Based on a systematic literature review, the following research themes were identified: the importance of human capital, the development of digital competencies, investment in innovation and business performance. A comprehensive overview of published articles and their research topics is presented in the appendix (Table 1). Through bibliometric analysis, we identified the most used keywords mentioned by the authors in their papers. Specifically, these are the terms: performance, human capital, innovation and digital transformation.

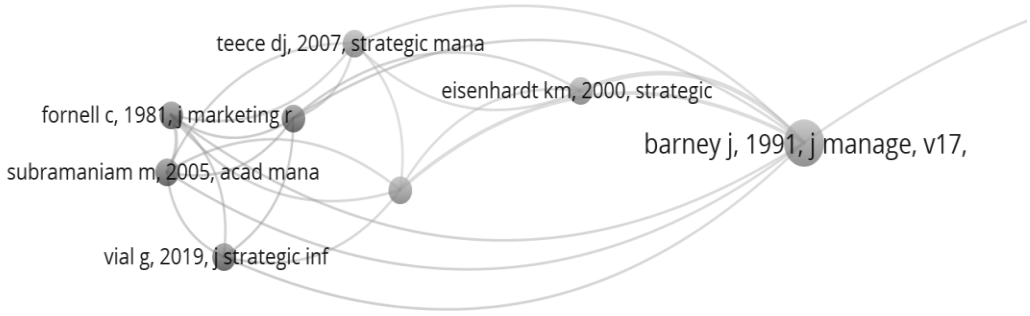
Figure 2: Bibliometric analysis of keywords



Source: Processed by the authors

Next, the most cited authors whose ideas were relied upon by the current authors of the articles were identified. Specifically, these authors are Barney (1991) and Fornel (1981) with a citation count of 5. The current most cited authors in the study area are Large (2020), Vail (2019), and Warner (2019), with each author being cited 3 times within the identified articles.

Figure 3: Bibliometric analysis of the most cited authors on the subject



Source: Processed by the authors

The research provides a systematic and comprehensive list of available quality resources that can assist authors in their personal research on the role of human capital in the digital economy era. In addition, the results may be beneficial for businesses undergoing the digital transformation process. Digital transformation has a significant impact on their performance.

4. CONCLUSION

Human capital plays a significant role in the current era of digital technology, as evidenced by the numerous leading scientific research papers in top journals. Despite the widespread evidence of the importance of human capital, there has not yet been a systematic and comprehensive review of scientific knowledge that brings together the most up-to-date scholarly contributions on the topic. Therefore, the aim of this research was to identify current research directions in the field of human capital and the digital economy. Based on the PRISMA method, 28 articles in 20 major journals were identified. By analyzing the articles, 4 major research themes were identified that were addressed by the authors of the research articles. The first and most significant theme was the importance of human capital. The second theme was the need to develop digital competencies. The third most prevalent theme was investment in innovation and the last theme was business performance. At the same time, the commonly used keywords that were most frequently mentioned by the authors in their research were clarified. In addition, the most cited authors that researchers relied on in their current research were defined.

The limitations of the research lie mainly in the chosen database, index, quartile and years of selection (Web of Science/SSCI/Q1 and Q2/2020-2024). Therefore, it is not possible to generalize our findings to other databases and years. Despite these limitations, the assumption is that findings published even in a narrow selection of high-quality journals reveal the current direction of the field to the required extent.

Future research could extend the systematic literature review for future years. Similarly, future research could address issues of human capital engagement, motivation and satisfaction in the digital economy.

Acknowledgements

This paper was written within the VEGA project reg. no. 1/0448/24 "Research on key determinants of human capital and economic growth in the conditions of development of digital economy".

REFERENCES

Cabrilo, S., Dahms, S., & Tsai, F. (2024). Synergy between multidimensional intellectual capital and digital knowledge management: Uncovering innovation performance complexities. JOURNAL OF INNOVATION & KNOWLEDGE, 9(4). https://doi.org/10.1016/j.jik.2024.100568

Canal, M., de Obesso, M., & Rivera, C. (2024). Does educators' digital competence improve entrepreneurial students' learning outcomes? INTERNATIONAL ENTREPRENEURSHIP AND MANAGEMENT JOURNAL, 20(3), 1707-1730. https://doi.org/10.1007/s11365-023-00921-x

Chaudhuri, R., Chatterjee, S., Vrontis, D., & Vicentini, F. (2023). Effects of human capital on entrepreneurial ecosystems in the emerging economy: The mediating role of digital knowledge and innovative capability from India perspective. JOURNAL OF INTELLECTUAL CAPITAL, 24(1), 283-305. https://doi.org/10.1108/JIC-07-2021-0177

Chen, H., Yuan, B., Li, Z., & Bai, T. (2024). The internal mechanism and impact of digital economy on China's smog pollution: Based on the perspective of industrial structure coordination. TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT, 4, 1-17. https://doi.org/10.1080/09537325.2024.2336560

Ferrer-Serrano, M., Fuentelsaz, L., & Gil-Lamata, M. (2024). More digitalization does not always imply more technology transfer: An analysis within the horizon Europe strategy. JOURNAL OF TECHNOLOGY TRANSFER. https://doi.org/10.1007/s10961-024-10104-7

Heubeck, T., & Meckl, R. (2022). More capable, more innovative? An empirical inquiry into the effects of dynamic managerial capabilities on digital firms' innovativeness. EUROPEAN JOURNAL OF INNOVATION MANAGEMENT, 25(6), 892-915. https://doi.org/10.1108/EJIM-02-2022-0099

Hossain, M., Rahman, M., Cater, T., & Vasa, L. (2024). Determinants of SMEs' strategic entrepreneurial innovative digitalization: Examining the mediating role of human capital. EUROPEAN JOURNAL OF INNOVATION MANAGEMENT. https://doi.org/10.1108/EJIM-02-2024-0176

Ji, M., Jiao, Y., & Cheng, N. (2023). An Innovative decision-making scheme for the high-quality economy development driven by higher education. JOURNAL OF INNOVATION & KNOWLEDGE, 8(2). https://doi.org/10.1016/j.jik.2023.100345

Keegan, A., & Meijerink, J. (2023). Dynamism and realignment in the HR architecture: Online labor platform ecosystems and the key role of contractors. HUMAN RESOURCE MANAGEMENT, 62(1), 15-29. https://doi.org/10.1002/hrm.22120

Liu, Y., Yu, Y., Huang, Y., & Guan, W. (2024). Utilizing the resource efficiency: Evidence from the impacts of media industry and digitalization. Resources Policy, 88, 104346. https://doi.org/10.1016/j.resourpol.2023.104346

Moncada, R., Carbonero, F., Geuna, A., & Riso, L. (2024). Digital adoption and human capital upscaling: A regional study of the manufacturing sector. SMALL BUSINESS ECONOMICS. https://doi.org/10.1007/s11187-024-00975-3

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. BMJ, n71. https://doi.org/10.1136/bmj.n71

Qin, J., Subramanian, A., & Lin, J. (2024). Research and development and the financial performance of high-tech small- and medium-sized enterprises: Does managerial ability matter? INTERNATIONAL SMALL BUSINESS JOURNAL-RESEARCHING ENTREPRENEURSHIP, 42(5), 583-610. https://doi.org/10.1177/02662426231205196

Rózsa, Z., Folvarčná, A., Holúbek, J., & Veselá, Z. (2023). Job crafting and sustainable work performance: A systematic literature review. Equilibrium. Quarterly Journal of Economics and Economic Policy, 18(3), 717-750. https://doi.org/10.24136/eq.2023.023

Simionescu, M., Pelinescu, E., Khouri, S., & Bilan, S. (2021). The Main Drivers of Competitiveness in the EU-28 Countries. JOURNAL OF COMPETITIVENESS, 13(1), 129-145. https://doi.org/10.7441/joc.2021.01.08

Stephany, F., & Teutloff, O. (2024). What is the price of a skill? The value of complementarity. RESEARCH POLICY, 53(1). https://doi.org/10.1016/j.respol.2023.104898

Van, I., Kotaskova, A., Ferraris, A., & Le, T. (2023). Linking innovation and firm performance in an emerging market: Does supply chain play a mediation role? EUROPEAN JOURNAL OF INNOVATION MANAGEMENT. https://doi.org/10.1108/EJIM-04-2023-0302

Yu, J., Xu, Y., Zhou, J., & Chen, W. (2024). Digital transformation, total factor productivity, and firm innovation investment. JOURNAL OF INNOVATION & KNOWLEDGE, 9(2). https://doi.org/10.1016/j.jik.2024.100487

Yu, W., Du, B., Guo, X., & Marinova, D. (2023). Total factor productivity in Chinese

manufacturing firms: The role of E-commerce adoption. ELECTRONIC COMMERCE RESEARCH. https://doi.org/10.1007/s10660-023-09711-7

Zhao, Y., & Fang, W. (2023). How does digital transformation affect green innovation performance? Evidence from China. TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT. https://doi.org/10.1080/09537325.2023.2282077

ATTACHMENTS

Table 1 Systematic literature review

Authors	Year	Goal	Theoretical framework	Method
Andersson, M., Kusetogullari, A., & Wernberg, J.	2023	Analyse the distribution and characteristics of firms investing in software development and focus on the areas of their investment, examining the importance of software development as a form of digital innovation and its impact on competitive advantage in a digitalised economy	Software development is seen as a central element of digitisation and innovation, and is compared to investment in research and development (R&D). Theoretically, in-house software development is thought to be associated with large innovative firms in high-tech and knowledge-intensive industries, suggesting its key role in building competitive advantage.	Analysis of data from a unique firm-level survey of 3,929 firms across Sweden to identify the distribution, characteristics and investment focus of firms in software development
Cabrilo, S., Dahms, S., & Tsai, F.	2024	Deepen understanding of the contingency and complex interrelationships between multidimensional intellectual capital (IC), technological knowledge management (KM) and innovation outcomes in dynamic business environments. Specifically, explore causal recipes for high innovation performance based on different dimensions of IC and digital KM practices.	The article is based on the theory of intellectual capital, which includes traditional (human, structural and relational capital) and new dimensions (renewal capital, entrepreneurial capital, trust capital), and the concept of digital technological knowledge management (KM) as a key driver of innovation performance. The combination of these components creates the conditions for open and collaborative innovation in the digital era	The study uses a neoconfigurational approach and fuzzy-set qualitative comparative analysis (fsQCA) to identify multiple conjoint causes of high innovation performance. The data are drawn from a survey conducted among 102 publicly listed firms in Taiwan. The research revealed four archetypes (causal recipes) that illustrate the relationships between different dimensions of IC, digital KM and innovation performance
Canal, M., de Obesso, M., & Rivera, C.	2024	Examine how educators' digital competencies affect student learning outcomes, as measured by their perceptions of	The study draws on theories of the economics of education and evidence-based learning, focusing on the effectiveness of investments in educators'	DigCompEdu, a validated tool that assesses educators' digital competencies, was used to collect the data. The data was collected through an

		learning and learning outcomes. The aim is to develop a model for understanding the impact of educators' digital competencies as a specific factor of pedagogical intervention on learning outcomes, thereby providing a basis for educational policy and higher education management	digital competencies. Higher education is seen as key to economic development and human capital building. The study examines the relevance of professional engagement and digital teaching skills as factors of teaching effectiveness	online questionnaire that was self-administered by the respondents. Correlation analysis and structural equation modeling (SEM) using partial least squares method (PLS-SEM) were applied to analyze the data
Ferrer-Serrano, M., Fuentelsaz, L., & Gil-Lamata, M.	2024	Examine the relationship between the level of digitalization and the effectiveness of technology transfer (TT), focusing on identifying whether countries with medium levels of digitalization perform better in TT than countries with higher levels of digitalization	Digitalisation is seen as a key factor influencing global cooperation and technology exchange. The research challenges the traditional view of the linear impact of digitalization on TT and identifies specific indicators of digitalization (connectivity, human capital, integration of digital technologies) that can influence the position of countries within the TT network	A two-stage analysis was used to analyse the relationship between digitisation and technology transfer. The network analysis identified patterns of collaboration between 31 countries and 2 890 organisations. Subsequently, a clustering and ANOVA method verified differences in TT effectiveness by level of digitisation based on data from Horizon Europe and the Digital Economy Index
Gil-Lamata, M., Fuentelsaz, L., & Latorre-Martínez, M.	2023	Examine how digitisation is supporting the transition to a circular economy (CE) in EU Member States and identify key digitisation drivers affecting CE	The study focuses on the link between digitalisation and the circular economy, analysing their mutual effects and identifying important variables such as human capital, integration of digital technologies and digital public services	Using cluster analysis, EU countries were divided into groups (Generators, Recyclers, Achievers, Innovators) according to their circular behaviour. A subsequent analysis of variance (ANOVA) examined differences in digitisation variables between these groups, which allowed to identify key drivers of variability in OH

Heubeck, T., & Meckl, R.	2022	Examine the impact of dynamic managerial capabilities (managerial human capital, social capital and cognition) on the innovativeness of firms in the digital economy, with an emphasis on their role in the context of Industry 4.0	The study is based on the theory of dynamic managerial capabilities, presenting them as a key factor supporting innovation in digital firms. It extends existing knowledge on their importance in digital versus non-digital industries	The analysis is based on data from the Industry 4.0 survey of German manufacturing companies. The data was processed using regression analysis to examine the impact of the individual components of managers' dynamic capabilities on firms' innovativeness
Hossain, M., Rahman, M., Cater, T., & Vasa, L.	2024	To provide a model to strengthen the digitization of small and medium enterprises (SMEs) in Bangladesh that focuses on strategic innovation (SI) and its impact on digitization in the context of the digital economy	The study is based on research on strategic innovation (SI) and its impact on digitalisation, highlighting the role of human capital (HC), infrastructure and technological and resilience factors in SMEs	A survey of 180 SMEs in the Bangladeshi manufacturing sector was used to collect data. The analysis focused on identifying patterns between strategic innovation, human capital and digitalization in SMEs
Chaudhuri, R., Chatterjee, S., Vrontis, D., & Vicentini, F.	2023	Empirically examines the relationship between human capital and entrepreneurial ecosystems, focusing on the role of digital knowledge capacity, innovation capacity and technological disruption	The study builds on the theory of the resource-based view (RBV) and absorptive capacity to develop a theoretical model of entrepreneurial ecosystems that incorporates human capital, digital and innovation capacity, and technological turbulence	The study uses literature inputs to develop a theoretical model, which is then validated using structural equation modelling technique, with data collected from start-ups in India
Chen, H., Yuan, B., Li, Z., & Bai, T.	2024	The study elucidates the theoretical mechanism through which the development of the digital economy (DE) affects smog pollution (SP), and empirically examines this relationship using panel data from China	The industrial structure coordination perspective is used to explain the relationship between DE, smog pollution and industrial structure development, incorporating industrial structure rationalization (ISR) and industrial structure advancement (ISA)	Panel data on 214 cities in China over the period 2010-2019 are used for empirical analysis to explore the relationships between the digital economy, industrial structure and smog pollution

Ji, M., Jiao, Y., & Cheng, N.	2023	The study aims to explore how high-quality higher education can provide innovative solutions in economic development decision-making in the digital economy (DE) era, with an emphasis on the role of higher education in economic development and human capital cultivation	The study analyses the role of higher education in economic development, highlighting the importance of human capital for economic development. Innovations are supported by a methodology for assessing the quality of economic development through system indices and regional gap analysis	The methods used are entropy weighting in intelligent decision making, TOPSIS sorting technology, and analysis of regional differences using the average logarithmic deviation, the Theil index, and the Gini coefficient. The data cover the period 2015-2021 for the province of YREZ
Keegan, A., & Meijerink, J.	2023	The study aims to rethink the assumptions of Lepak and Snell's (1999) human resource management (HRM) architecture model, which considers contractors as low-value human capital contractors, in the context of digital technologies and algorithmic management that enable organizations to manage external workers more effectively	The study criticizes the original HRM model, which links the value of human capital to internal hiring and minimal management of external staff. The new perspective emphasizes the importance of external workers who are effectively managed using algorithmic technologies, which enhances their contribution to innovation and the competitive advantage of organizations	The authors draw on an analysis of modern online work platforms and algorithmic management, challenging traditional assumptions about outsourced workers and HRM practices. Based on this analysis, they propose an extension of the original model to include new factors related to digital technologies and outsourcing
Lin, Y., & Li, C.	2023	The study focuses on analyzing the impact of rural e-commerce agglomeration on family farms in the Yangtze River Delta region of China, to explore how digital technologies such as 5G, AI and blockchain contribute to agricultural development and increasing the efficiency of family farms	Drawing on agglomeration and digital transformation theory, the study explores the different mechanisms that enable rural e-commerce to contribute to the development of family farms. Attention is paid to knowledge spillovers, infrastructure sharing and labour adjustment that promote growth and productivity gains	Methods such as fixed effects, GMM, spatial Durbin model, and mediating effects model were used to analyze the impact of agglomeration of rural e-commerce on family farms, using an urban panel dataset from 2015 to 2020

Moncada, R., Carbonero, F., Geuna, A., & Riso, L.	2024	The study examines the impact of investment in digital technologies on labour demand in the manufacturing sector, with an emphasis on the relationship between digital investment and the likelihood of employing workers with different levels of education	The research draws on digitalisation and human capital theory, which examines how investment in digital technologies affects the demand for different worker skills, with an emphasis on technical and science education (STEM)	The Unioncamere Piemonte quarterly survey was used for the analysis, which provided data on investment in digital technology and its impact on employment. The survey focused on a sample of non-microfirms and used quantitative methods to assess the impact of these investments on the demand for employees with different levels of education
Nguyen, H., Pham, H., & Freeman, S.	2023	The aim of this paper is to examine dynamic capabilities as a second-order construct and to identify their antecedents (antecedents) and outcomes. The study examines the impact of various factors such as human capital, organizational learning, environmental dynamics and digital marketing on dynamic capabilities of tourism enterprises in Vietnam	The study is based on dynamic capabilities theory, which examines how firms develop the ability to adapt to changes in the environment and gain competitive advantage. It considers factors such as human capital, organisational learning and digital tools that support this flexibility	The research is based on the analysis of data collected from 242 tourism enterprises in Vietnam, using quantitative methods to assess the impact of various factors on dynamic capabilities and their subsequent impact on the competitive advantage of the enterprises
Petkovski, I., Fedaev, A., & Bazen, J.	2022	The aim of the study is to use the pillars of sustainable competitiveness (social, economic, environmental and energy) to assess international developments in digitalisation and to understand the patterns between competitiveness and digitalisation	The study builds on the concept of sustainable competitiveness and its relationship to digitalisation, focusing on economic, environmental and energy factors as key determinants of progress in digitalisation	Non-linear regression and artificial neural network (ANN) models applied to annual data from 33 European countries over the period 2010-2016 are used to identify patterns between drivers of sustainable competitiveness and digitalisation

Qin, J., & Lin, J.	2024	The aim of the study is to examine how CEOs' foreign experience influences the digital transformation of firms, while also examining the interaction of this experience with other firm resources	The research draws on senior floor theory, which emphasises the importance of senior leadership experience and education in shaping decision-making processes, particularly in the digital transformation of businesses	The study uses panel analysis with data from 790 Chinese listed firms between 2007 and 2019. The research investigates the impact of overseas CEO experience on digital transformation, taking into account factors such as firm inactivity and the presence of digital leaders
Qin, J., Subramanian, A., & Lin, J.	2024	The aim of the study is to investigate how managerial capabilities influence the impact of research and development (R&D) on the financial performance of high-tech small and medium-sized enterprises (SMEs), and how the external environment (such as the economic situation and the development of the digital economy) influences this relationship	The research uses a combination of resource management perspectives and managerial capabilities research, focusing on how managerial capabilities can mitigate or amplify the impact of R&D on the financial performance of high-tech SMEs	The study uses a moderated model and panel analysis on a sample of 256 Chinese high-tech SMEs from 2007 to 2019. The research examines how managerial capabilities affect the relationship between R&D and financial performance, taking into account factors such as the economic downturn and the development of the digital economy in regions
Ren, S., Li, L., Han, Y., Hao, Y., & Wu, H.	2022	The aim of this research is to examine the impact of digital economy agglomeration on inclusive green growth and to identify the transmission mechanism by which the digital economy affects this growth in China. The study also aims to analyze the impact of the "Broadband China" policy on inclusive green growth at the local level	The research is based on an inclusive green growth model that integrates aspects of ecological, economic and social development. A combination of methodologies such as the Slacks measure of directional distance functions (SBM-DDF) and the global Malmquist-Luenberger index (GML) are used to measure inclusive green growth and the geographical concentration of the digital economy. The transmission mechanism includes factors such as energy consumption, pollution, economic growth, human capital, industrial structure and technological progress	The research uses panel analysis for 282 cities in China from 2004-2019 to measure inclusive green growth. The digital economy is assessed based on geographic concentration. A spatial difference-in-differences (SDID) model is used to analyze policy effects, examining the impact of the "broadband China" policy

Seet, P., Jogulu, U., Cripps, H., & Nejati, M.	2023	This research focuses on exploring the impact of the sharing economy on the employability of women, specifically mothers, through digital peer-to-peer (P2P) platforms. The authors explore how these platforms can influence women's perceptions of employability, improve skills and unlock human capital through technology acceptance	Drawing on human capital theory, the research explores how sharing economy platforms can help women overcome skills degradation issues and improve the signalling of their capabilities to potential employers. In addition, social interactions between mothers are explored, which may support future self-employment or entrepreneurship	The research used a pragmatic approach with a single case study design, applying the Gioia methodology. Data collection was conducted using a semi-structured telephone survey that explored mothers' decisions regarding the use of a new P2P mobile application that supports their employability. The analysis was inductive, using thematic analysis and structural equation modelling using the partial least squares method (PLS-SEM)
Simionescu, M., Pelinescu, E., Khouri, S., & Bilan, S.	2021	The aim of this paper is to examine the role of innovation, foreign direct investment (FDI) and human capital in promoting the competitiveness of European economies, focusing on their impact on competitiveness growth in the digital economy	The research extends the Cobb-Douglas production function to include competitiveness factors such as foreign direct investment, innovation and human capital. The framework focuses on how these factors affect economic growth and competitiveness at the EU-28 level	The research uses panel data from EU-28 countries over the period 2004-2018 to empirically test the impact of innovation, FDI and human capital on competitiveness. The model extends the traditional Cobb-Douglas function with factors such as GDP per capita, labour force, R&D expenditure, and FDI. The results are analyzed through these extended economic formulas to determine the impact of these factors on economic growth and competitiveness

Stephany, F., & Teutloff, O.	2024	The aim of this research is to determine which skills are the best investment for workers and firms in the context of technological change, based on the complementarities between different skills. The research aims to analyse how the combination of different skills affects their economic value and to identify the skills that contribute most to increasing workers' wages and competitiveness	Research suggests that the value of skills is determined by the complementarity between different types of skills. Skills that can be combined with other valuable skills have a higher economic value. This approach includes an analysis of Artificial Intelligence (AI) skills, which have particularly high value due to their strong complementarity with other technical skills and the growing demand in the labour market	The researchers analysed a set of 962 skills and found that their economic value is highest when combined with other skills, particularly in areas such as artificial intelligence. The research tested the model on AI-related skills and found that these skills increase workers' wages by an average of 21%. The model was developed to identify the most valuable skills and to provide recommendations for digital reskilling and education and labour market policy
Tang, L., Xu, Z., & Lyu, X.	2023	The purpose of this study is to investigate the impact of the host's reputational asset (host popularity) and human capital (speed of entry and managerial seniority) on the expansion of the shared accommodation business, using resource-based theory. The research focuses on digital micro-entrepreneurs in the shared accommodation industry, specifically on the Airbnb platform	Resource-based theory is used to explain how factors such as host popularity and speed of entry affect expansion in the sharing economy. The research also takes into account managerial seniority, which can affect the success of business expansion	The study uses data collected using a Python web crawler from the Airbnb platform, specifically collected from 2013-2018 in Beijing. The data on 348 hosts were analyzed using ordinary least squares regression model with year fixed effect. This model focuses on examining the impact of host popularity, speed of entry into the business, and managerial seniority on the expansion of hosts' business
Toma, S., & Hudea, O.	2024	The aim of the research was to find out the views of Generation Z students on the skills, abilities and competencies needed in the era of artificial intelligence systems	The research contributes to the literature on the relationship between human capital and the era of artificial intelligence and offers new insights into the structure of necessary skills, competences and capabilities in the digital society	A quantitative research method through an online survey was used, analysing a sample of 352 undergraduate students in Romania. The data were processed using SPSS 17.0 statistical software and the methods used included principal components analysis and correlation analysis

Van, I., Kotaskova, A., Ferraris, A., & Le, T.	2023	The study examines the impact of human capital (manager and employee capital) and orientation (market and entrepreneurial orientation) on accelerating digitalisation and improving business performance. It also examines the role of supply chains as direct and indirect mediators between digitisation and business performance	The research focuses on the importance of human capital and business orientation as key factors for driving digitisation and business performance, highlighting the role of supply chains as intermediaries in this process	The study uses a quantitative ethodological approach and empirical analysis based on a random sample of 368 managers and owners of food processing enterprises in Vietnam. The analysis of the relationships was conducted using structural equation modelling (SEM)
Yang, L., & Liu, Y.	2024	The study examines the impact of building digital infrastructure on the resilience of China's production chain, focusing on the mechanism and spatial impact of digital technologies on the ability of industrial chains to cope with the risks of disruption	The research is based on the assumption that digital infrastructure positively affects the resilience of industrial supply chains, while also examining the heterogeneity of effects across regions depending on the level of economic development, financing and human capital	Panel regression model, quantile regression model, panel threshold model and spatial Durbin model were used for the analysis. These techniques were applied to investigate the internal mechanism and spatial impact of digital infrastructure on the resilience of the production chain in China
Yu, J., Xu, Y., Zhou, J., & Chen, W.	2024	The study examines the impact of digital transformation on business investment in innovation in China, focusing on total factor productivity and the mechanisms that influence this dynamic between 2012 and 2021	The research is based on the premise that digital transformation can promote investment in innovation, but can also have a negative intermediation effect through total factor productivity (TFP), leading to competition for capital and labour inputs between production and innovation	Fixed-effects and random-effects regression methods were used to analyze data from companies listed on the Chinese A-share market over the period 2012-2021. Instrumental variables model was used to control for endogeneity, and panel regression was applied to analyze heterogeneity. These methods allowed us to identify the mechanisms that influence the impact of digital transformation on innovation investment in different groups of firms

Yu, W., Du, B., Guo, X., & Marinova, D.	2023	The purpose of this paper is to examine the relationship between e-commerce and total factor productivity (TFP) at the manufacturing firm level in China from 2015 to 2021, and to empirically test whether e-commerce can improve the productivity growth of manufacturing firms	E-commerce, used directly by manufacturing firms, has the potential to increase TFP growth. This impact is underpinned by two main factors: the supply of quality human capital and more effective market competition between firms. E-commerce contributes to TFP growth through attractiveness for highly skilled human capital and improved market concentration, thereby reducing the intensity of market competition	The research relies on an empirical analysis based on data from 178 manufacturing companies listed on China's A-share market, examining the effects of e-commerce on TFP between 2015 and 2021. Methods include quantitative models to test the impact of e-commerce on productivity and to identify the factors that influence this impact
Zheng, H., & Ye, A.	2024	The purpose of this study is to examine the impact of enterprise digital transformation on technological innovation in Chinese A-listed manufacturing firms between 2010 and 2019. The study focuses on the mechanisms through which digital transformation promotes technological innovation	Digital transformation can support technological innovation in a variety of ways, such as reducing costs, increasing human capital efficiency and deepening R&D collaboration. These factors are seen as key channels through which digital transformation influences technological innovation in enterprises	The research is based on the analysis of data from manufacturing enterprises listed on China's A-share exchange between 2010 and 2019. The study employs quantitative methods and conducts robustness and endogeneity tests to verify the effectiveness and impact mechanism of digital transformation. It also analyzes the heterogeneity of the impact of digital transformation on technological innovation depending on the regional development of the digital economy and the capital intensity of enterprises

Source: compiled by the authors based on the results of the PRISMA analysis

Contact:

Ing. Jakub Holúbek
Alexander Dubček University of Trenčín
Faculty of Socio-Economic Relations
Študentská 3
Trenčín, 911 50
Slovakia
e-mail: jakub.holubek@tnuni.sk

Ing. Jana Masárová, PhD.
Alexander Dubček University of Trenčín
Faculty of Socio-Economic Relations
Študentská 3
Trenčín, 911 50
Slovakia, e-mail: jana.masarova@tnuni.sk

AGING OF THE POPULATION AND IMPACT ON THE LABOR MARKET IN THE SR

Alexandra HOŤKOVÁ

Abstract

The main goal of the research is to specify the aging of the population in the Slovak Republic and its impact on the labor market. Data obtained from research and current literature serve as a basis for further investigation and offer an overview of new trends related to aging and employment. Based on them, we focused on selected indicators of population aging and their expected development. Since aging affects the whole society, it is necessary to include in the analysis the labor market, the structure and state of the workforce, as well as its future development. The importance of this research stems from the fact that aging is a global and complex process that cannot be stopped. Therefore, it is important to understand its dynamics, anticipate possible future changes and look for ways to mitigate its negative consequences. The results indicate that society is going through and will go through significant demographic transformations that will affect almost all areas of life. With the decrease in the total number of inhabitants, the demographic structure also changes, while the trend of reducing the pre-productive and productive components can negatively affect economic growth. At the same time, the growing population in the post-productive category can put pressure on the social system and healthcare. The consequences of these changes are extensive, from the need to adapt education and retraining programs to the need for changes in employment policy. This process requires an interdisciplinary approach that takes into account the needs of different age groups and sectors. To ensure sustainable development, it will be necessary to invest in technologies and innovations that could support labor productivity and, to some extent, substitute for labor shortages. The findings confirm that the population of the Slovak Republic is aging and the speed of this process has a fundamental impact on the labor market and society as a whole, which requires a systematic approach to the planning and implementation of policies reflecting this challenge. I also consider it important to involve employers, who should be motivated to create flexible working conditions and an environment that supports diversity and inclusion in the workplace.

Key words:
aging, population, labor market

JEL Classification J11, J21 https://doi.org/10.52665/ser20240204

INTRODUCTION

Aging of the population, or population can be characterized as a long-term trend, the manifestations of which are changes in the age structure, changes in demographic indicators and changes in the structure of the labor force (Armstrong-Stassen and Schlosser, 2011). Demographic aging is considered a key element of the demographic transition, and its state and development are influenced by many other demographic phenomena (birth rate, mortality, migration and others). According to Fernandes et al. (2023), population aging is taking place due to the decreasing influx of newborns and the insufficient outflow of older residents. Barsukov and Kalachíková (2020) understand the aging of the population as a global system that is in a transition period, passing from the phase of implementation of demographic dividends. In the past, aging research focused mainly on identifying it and quantifying its rate and level. Currently, the authors focus mainly on the impacts, consequences and influences that it brings with it. Among the most serious findings, I include the effects on economic growth, the slowdown in GDP/capita growth (Cooley and Henriksen, 2018), the slowdown in the rate of economic growth (Lee and Shin, 2021), changes in labor productivity and the average consumption of people of working age (Mason and Lee, 2022), production growth, investment, savings, interest wages and others (Sun, et. al., 2019). Most authors researching population aging agree that population aging is a global process that takes place on a global scale and affects all countries of the world, on the basis of which this process becomes a trend. However, the examination of its most significant causes,

impacts, influences and possible solutions must be carried out with a specific country in mind. The reason is simple, the aging of the population and its level results from the rate of birth, mortality, fertility, population structure, social policy, level of health care and much more. This fact raises the need for research at the national level (or in a smaller area), due to the variability of the investigated indicators depending on the area (Fernandes et al., 2023). The validity of research and the economic impacts of aging are confirmed by many authors with the conclusions of their research (Cylus and Tayara, 2021; Xinyue, 2023; Wen-Hsin et al., 2019).

This study focuses on specifying the aging of the population in Slovakia and its impact on the labor market, specifically on the state and structure of the labor supply. We start from the quantitative analysis of basic and extended indicators of population aging and from the primary mapping of the population and its structure in Slovakia.

The originality of the research lies in the extended methods used, the results of which offer a broader view and illumination of the context of the investigated issue. The research results provide important findings that are the basis for strategic planning in matters of employment policy, social and pension policy, measures on the labor market, for the creation of support systems by the state, but also for employers as basic information mapping the current situation on the labor market and its upcoming developments.

The structure of the article is as follows. In the theoretical part, the results of scientific studies in the field of population aging are presented from various points of view and possible influences. In the next part of the article, the aim of the research and the methodology used are presented. The third part presents the results of the quantitative analysis in Slovakia. And the last part is a short discussion of the findings and presentation of the basic conclusions.

2. Literature overview

Population aging represents one of the most fundamental demographic trends of the 21st century, which has a fundamental impact on labor markets and economic policies in both developed and developing countries. This phenomenon is caused by a combination of increasing life expectancy and declining birth rates, leading to changes in population structure and disruption of traditional work dynamics.

One of the main consequences of population aging is the reduction of labor supply, which poses a serious challenge to economic growth and sustainability. An aging population leads to changes in the demographic structure, where the increasing proportion of older people means that fewer and fewer persons of working age will be able to participate in the labor market. According to Blien (2020), increasing participation in the labor market is a key objective of employment policies, as it can help compensate for labor shortages caused by demographic changes. Matching labor supply and demand is important to avoid serious economic problems such as declining productivity, rising unemployment and economic instability. To reduce the risk of labor shortages, it is necessary to constantly monitor the state of labor resources and diagnose the needs of the labor market (Wysocka, 2021). In this way, it is possible to identify the areas where there is the greatest demand for labor. Such analyzes can be beneficial for the prevention of unemployment and for the effective planning of educational activities, so that they correlate with the demands of the labor market. Demographic changes affect the job offer not only quantitatively, but also qualitatively. Population aging can lead to a decrease in relative productivity and a change in the structure of industry. As Davis (2022) states, in larger countries knowledge diffusion may be more efficient, increasing productivity, while in smaller countries population aging may limit this process. It is also necessary to consider changes in the consumption and lifestyle of the older population. Yaziz (2020) points out that aging can change the structure of household energy consumption. These changes have the potential to affect economic policies and infrastructure planning. Furthermore, the economic effects of demographic change can be double-edged. Fernandes (2024) points out that a more educated older workforce can contribute to economic growth and reduce inequality if ways are found to integrate these groups into the workforce. Raising awareness of the values and contributions of older workers in society is also

an important part. Creating a positive image of aging and promoting diversity in the workplace can help overcome the stigma associated with age discrimination. The United Nations (2023) identifies increasing life expectancy and decreasing birth rates as major challenges that affect not only the economy but also social systems. Health care and access to education for older workers are key to maintaining their productivity and economic activity. Enabling older workers to acquire new skills and deepen existing knowledge increases their employability. Programs aimed at lifelong learning and retraining can be effective especially in areas where technological innovations and changes in the labor market are taking place. Developed information technologies and the growing sharing economy can also contribute to changes in the labor market, while the issue of ageism, which can prevent older workers from fully engaging in the work process, must also be considered (Kartúzová, 2020).

Currently, we are also facing economic crises and a reduction in household income, which contributes to the complexity of the situation on the labor market. Older workers often find themselves in competition with younger ones, which can increase youth unemployment (Grigoli, 2022). This age gap in employment requires policy interventions to reduce the negative effects of the demographic crisis, such as programs to support employment and improve working conditions for older workers. According to Zubiková (2021), pension systems face serious pressure due to the aging of the population and the deterioration of the demographic structure. The sustainability of these systems requires reforms and innovations that would enable better adaptation to the changing needs of the labor market. Moreover, Mitra (2022) reports that the decline in the working-age population has a direct negative impact on the net inflow of foreign direct investment. The decline poses a serious threat to the economic health of countries, as lower availability of skilled labor can discourage investors. This negative trend further underlines the need for a comprehensive policy to support the labor market. It is imperative that countries actively engage in the creation and implementation of policies that address the challenges of population aging and the decline in the number of working-age people. To mitigate the adverse effects of ageing, priority should be given to combined approaches that include labor market policies, pension reforms and investment in human capital and technology. Approaches should be designed to complement and reinforce each other. This will ensure comprehensive and sustainable development of the labor market. Labor market policy should be aimed at increasing employment and participation of demographic groups and supporting flexible forms of employment. Equal attention must be paid to pension systems, as they are currently facing increasing pressure due to an aging population. (Papapetrou, 2020). Kratt (2020) emphasizes that a productive aging policy that focuses on attracting older workers to the labor market is an effective response to aging-related challenges. This approach is not only a proactive solution to reduce labor shortages, but also an essential step towards ensuring the sustainability of social systems and the economy as a whole. Countries with a high proportion of elderly populations face problems such as low labor force participation and financial pressure on the sustainability of the pension system. In situations where the number of workers in working age is reduced, contributions to the pension system decrease. Based on this, the pension system is unbalanced (Novák, 2023). Current demographic developments call into question the sustainability of economic growth, as the declining share of the young workforce will have to support the rising share of older unemployed people. This trend can lead to several economic problems, such as a decrease in productivity, a reduction in innovation potential and an increase in social security costs. Some economists, such as Simková (2017), show that population aging has a negative impact on growth and labor productivity, which further underlines the need to address these issues through strategic policies. This demographic shift can ultimately lead to discontent and conflict between generations. In order to avoid these negative consequences, it is necessary to develop policies aimed at the integration of older workers in the labor market.

In conclusion, population aging in advanced economies represents a significant challenge that can have serious implications for labor markets and economic stability. This trend is reflected in

the growing share of older residents, which requires adaptation to changes in the dynamics of the labor market and overall socio-economic conditions. Policies aimed at promoting the participation of older workers, the integration of technology and the development of pension systems are essential to ensure sustainable economic development in the coming decades. Continuous monitoring of demographic trends and their impact on the economy will also be important so that effective and efficient measures can be taken. Given the dynamic nature of demography, it is imperative that politicians and economists constantly address current and projected changes in populations and adapt their policies accordingly. A dynamic approach will make it possible to respond effectively and face the challenges associated with the aging of the population. Ultimately, if countries are unable to adapt to these demographic changes, they may face significant economic and social problems, including reduced economic growth, increased unemployment and pressure on social systems. Therefore, I consider strategic planning to be a key part of effective policies.

3. Goal and Methodology

The main goal of the research was to specify the aging of the population in the Slovak Republic and its impact on the labor market.

Based on the expert estimation method, the following hypothesis was formulated:

H1: We assume that the aging process will increase its dynamics.

As part of the empirical research, a quantitative analysis was carried out with a focus on the aging of the population, the aging process in Slovakia, analysis of the current situation, development and projections for the future. The analysis of aging is complemented by the examination of selected indicators reflecting the situation on the labor market and the image of the available workforce in the context of population aging. The current state and current developments are supplemented by projections of the development of the workforce in selected sectors of the economy until 2028. Eurostat and the Statistical Office of the Slovak Republic databases were used to obtain primary data.

The index of potential economic support describes the quantitative relationship between the age category of the productive and the category of the post-productive population. Our research is based on age categories divided by productivity. Based on the relationship, we will find out how many inhabitants of productive age per 100 inhabitants of post-productive age, i.e. j. loading of the productive component with the post-productive one.

$$I_{1pep} = \frac{O_{15-64}}{O_{65+}} * c, (1), where$$

O – population,

c – constant (in our case, 100 people, e.g. per 100 people of post-productive age).

The aging index, also called the Sauvy index, indicates the dynamics of aging. We express it in percentages and it can also be used for reproductive age groups. His relationship reads:

$$Aging\ index = \frac{P(62+)}{P(0-14)} * 100, (2)$$

P(62) – number of persons in post-productive age

P(0-14) – number of persons in pre-productive age Linear trend is used in mapping the development of the monitored indicator.

It expresses how much the value of the monitored indicator will change if b0 changes. Its shape is:

$$Y_t = b_0 + b_1 * t;\ x = 1, 2 \dots T, (3), where$$

b0 and b1 – point estimates of the unknown parameters of the linear function.

The inflow coefficient expresses the number of persons aged 10-14 per the number of persons aged 15-64. It is denoted by capital letters KP and is expressed as a percentage. We find the resulting value as:

$$KP_{\%} = \frac{P(10-14)}{P(15-64)} * 100, (4), where$$

P(10-14) – number of people aged 10-14

P(15-64) – number of people aged 15-64

The labor force outflow coefficient expresses the number of persons aged 60-64 per the number of persons aged 15-64. It is denoted by the capital letters KO and expressed as a percentage. We find the resulting value as:

$$KO_{\%} = \frac{P(60-64)}{P(15-64)} * 100, (5), \text{where}$$

P(60-64) – the number of people aged 60-64

We indicate the exchange coefficient with capital letters KV and calculate the value in percentages. We get it as:

$$KV_{\%} = \frac{KP}{KO}, (6)$$

When creating and following trends, I also focused on their subsequent forecasting for the future. We used extrapolation for short-term projections, but other methods were necessary for long-term projections. The first step was to find out whether the created model is suitable for long-term projection. To find out this information, we used one of the time series alignment methods. This method examines the difference between actual and settled values and, based on this, detects deviations (Adamec, Strelec, 2020). There are several of these methods, I decided to lean towards the average absolute deviation (M.A.P.E.), which we find out:

$$M.A.P.E. = \frac{100}{T}\sum_{t=1}^{T}\frac{|Y_t - \hat{Y}_t|}{Y_t}, (7), where$$

Y - actual values

Yt - balanced values

To determine the need for labor in selected industries in the future, we decided to use the Boersch-Supan model. The selected model consists of monitoring the consumption of individual age groups of the population, determining the number of workers in selected industries, estimating consumption in the future, and based on these, we will finalize the forecast volume of the workforce in selected industries. Based on this, we can find out how the structure of the labor force in the economy will change, and the data can be used for further research, for example, the changing qualification structure and much more (Kostrová, 2019).

4. Findings and discussion

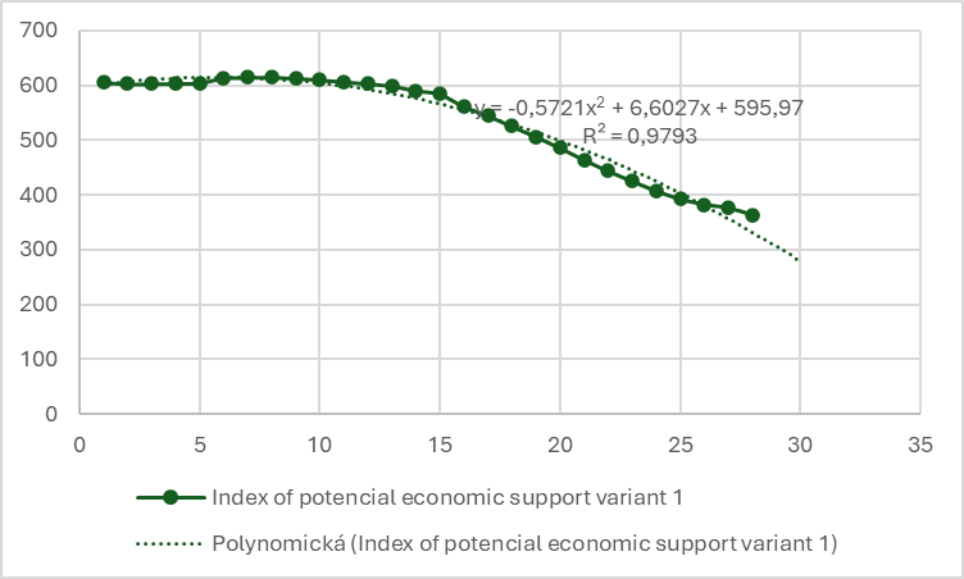
Table 1 Index of aging in Slovakia in 2011-2023

Slovak Republic	Aging Index in %
2011	82.96
2012	85.51
2013	88.34
2014	91.17
2015	94.22
2016	96.96
2017	99.43
2018	101.9
2019	104.8
2020	107.34
2021	108.27
2022	110.95
2023	114.76

Source: ŠÚ SR, 2024, own processing, [om7005rr]

The value of the Aging Index is constantly growing during the monitored time series. The lowest value is recorded in 2011 (82.96%) and the highest in 2023 (114.76%). The mentioned value of 114.76% means that for every 100 people of pre-productive age there are approximately 114 people of post-productive age. The result indicates that the population aging process in Slovakia is increasing its dynamics.

Chart 1 Index of potential economic support in Slovakia in the years 2011-2023



Source: ŠÚ SR, 2024, Datacube, own processing [pr3802qr]

The following input data were selected for the index of potential economic support: people of productive age and people of post-productive age. Graph 1 shows that the value of the monitored indicator decreases during the monitored time series (this is expressed by the trend line of the polynomial trend). The result means that for every 100 inhabitants in the post-productive age there are fewer and fewer inhabitants in the productive age. While in 2011 it was approximately 562,000, in 2023, it is already only 363,000. The aging process increases the dynamics. Based on the indicators on the appropriate use of the trend (M.A.P.E.), which took on a value of 6.09%, a decision was made to lean towards a linear trend, where the coefficient of determination took on a value of 0.8175, which means that 81.75% of the total variability is expressed by the model.

Table 2: Projection of the aging index until 2028 in Slovakia

	2024	2025	2026	2027	2028
65+ rokov	998 182	1 018 351	1 038 428	1 057 863	1 074 288
0-14 rokov	900 731	891 722	882 735	873 921	863 898
Aging Index	110.82	114.20	117.64	121.05	124.35

Source: Eurostat, 2024, own processing, [proj_23np_custom_13103241]

The result derived on the basis of Table 2 and the data in it reads: increasing development of the monitored indicator. In 2023, the index acquired a value of 114.76%. In 2028, it reached a value of 124.35%. Within four years, this is a 10 percent increase. In 2028, the pre-productive part of the population will be burdened by 124 people belonging to the post-productive part of the population. The same conclusion that applies to current developments also applies to the projection, namely that the population of Slovakia will age faster. Based on the aging index and its projection, we evaluate that we accept H1.

Table 3: Share of people by productivity in the years 2011-2023 in Slovakia

Year	Pre-productive age	Productive age	Post-productive age
2011	15.41	71.81	12.78
2012	15.35	71.52	13.13
2013	15.32	71.14	13.54
2014	15.31	70.73	13.96
2015	15.33	70.22	14.45
2016	15.46	69.55	14.99
2017	15.61	68.87	15.52
2018	15.74	68.22	16.04
2019	15.83	67.59	16.58
2020	15.9	67.03	17.07
2021	16.06	66.55	17.39
2022	16.09	66.06	17.85
2023	15.99	65.66	18.35

Source: ŠÚ SR, 2023, Datacube, own processing, [om7005rr]

The findings from Table 3 are disturbing. The most numerous category in all examined periods is the productive part of the population. Nevertheless, it remains an unfavorable fact that their share is decreasing during the entire monitored time period. Another unfavorable fact is that the share of the post-productive part of the population is constantly rising in the observed time series. The generational exchange is more than obvious based on the shares. The result remains that the largest changes in shares take place in the productive and post-productive components of the population, and the share of the pre-productive component does not change significantly. For the labor market, this information represents an unfavorable situation, as the results indicate a lack of labor force.

Table 4 offers the number and share of the economically active population in 2016-2023 in Slovakia. For 2016, the most numerous group are 35-44 year olds, which applies throughout the entire monitored period. Their number is increasing, which is also indicated by the value of the average coefficient of increase, namely 1.012228. We recorded an average annual increase both in the case of 45-54 year olds and also in the case of 55 and over. This is understandable, given that older generations were characterized by a higher birth rate, which today is reflected in a larger volume of people in higher age categories. Conversely, the 15-24 and 25-34-year-old categories show an average decrease. For 15-34 it was a decrease of 4.57% and for 25-34 it was 1.69%.

Table 4: Economically active population by age categories in the Slovak Republic in 2016-2023

	15-24 years old	25-34 years old	35-44 years old	45-54 years old	55+ years old
2016	206.1	702.2	788.4	643.6	417.8
	7.47%	**25.46%**	**28.58%**	**23.33%**	**15.15%**
2017	202.6	676.4	792.6	640.9	442.3
	7.35%	**24.55%**	**28.77%**	**23.26%**	**16.06%**
2018	189.8	663.7	790	653.7	449
	6.91%	**24.17%**	**28.77%**	**23.80%**	**16.35%**
2019	168.3	649.3	788.8	663.6	471.3
	6.14%	**23.69%**	**28.77%**	**24.21%**	**17.19%**
2020	156.1	629	782.2	664.8	480.6
	5.75%	**23.19%**	**28.83%**	**24.51%**	**17.72%**
2021	152.8	640.8	801.3	673.2	490.2
	5.54%	**23.23%**	**29.05%**	**24.41%**	**17.77%**
2022	141.8	624	794.3	702.9	511.3
	5.11%	**22.49%**	**28.63%**	**25.34%**	**18.43%**
2023	142.6	601.8	783	719.8	524.7
	5.14%	**21.71%**	**28.25%**	**25.97%**	**18.93%**

Source: ŠÚ SR, 2024, Datacube, own processing, [pr3804qr]

We examine labor force exchange based on inflow, outflow and exchange coefficients. The year 2023 is designated for their evaluation. The KP for the year 2023 for the SR acquired a value of 8.122, which means that approximately eight people aged 10-14 per 100 people aged 15-64. This influx can be influenced by the rate of fertility, birth rate, economic security, economic efficiency of the country, the level of education and healthcare in the country, education and modernization. From the point of view of the labor market, the current situation is stable, as the number of persons of productive age is sufficiently high, but in the future it may represent a reduction and major problems with the supply of labor on the labor market. The outflow coefficient reached the value of 9.522, which means that approximately 9-10 persons of post-productive age account for 100 persons of productive age. The KO value can be influenced by factors such as health care, environment, life expectancy in the country and the like. The last indicator is KV, which tells us about the rate of labor force reproduction. Its value is 0.853 less than 1, that is, the inflow is lower than the outflow of labor. We are talking about the so-called reduction of labor force reproduction. Based on the above calculated values, it can be argued that the share of the productive and post-productive component is greater than the share of the pre-productive component. For the labor market, this signals a lack of labor force, as the population in the post-productive component will age, but the number of people will not increase, which would be sufficient to cover the demand for labor force. KP, KO and KV projections until 2028 have an unfavorable development. KP and KO have rising tendencies, and KV is less than 1 throughout the entire forecast period. Based on this, it can be assumed that the reduced reproduction of the labor force will continue to persist.

Table 5: Projection of the share of the population by age until 2028 in Slovakia

	Pre-productive component		Productive component		Post-productive component	
	Number	**Percentages**	**Number**	**Percentages**	**Number**	**Percentages**
2024	900 731	16.27	3 635 913	65.69	998 182	18.03
2025	891 722	16.15	3 611 295	65.41	1 018 351	18.44
2026	882 735	16.03	3 586 639	65.12	1 038 428	18.85
2027	873 921	15.91	3 562 291	64.84	1 057 863	19.25
2028	863 898	15.77	3 541 659	64.63	1 074 288	19.60

Source: Eurostat, 2023, own processing, proj_23np__custom_13106400

The development of the share of the population divided by productivity does not radically change its development compared to the current situation. As before, the assumption is decreasing for the pre-productive and productive components and, on the contrary, increasing for the post-productive component. According to all the findings, it can be said that the burden of the post-productive component will continue to grow.

Table 6: Need for labor in 2028 in the Slovak Republic based on population consumption

Sector	Employment in 2023	Need in 2028	Difference
Industry	480000	440250	-39750
Healthcare	190000	194850	4 850
Doctors	5200	5497	297
Nurses	10500	11481	981
Nursing Staff	21000	22472	1 472
Education	52000	51025	-975
Transportation	110000	98125	-11875
Information and Communication	55000	67950	12 950
Financial and Insurance Services	53000	52125	-875

Source: Author's calculation

According to the results obtained through the Boersch-Supan model, the selected industries were divided into two groups. Those in which we anticipate an increasing need for labor and those in which the need for workers will decrease. The first category included the healthcare sector and information and communication technologies. The second group includes industry, education, transport, and financial and insurance services.

The healthcare sector was examined as a whole, but also according to individual professions (doctor, nurse, nursing staff). Based on the

model, it was assumed that the additional need for labor in the health sector will be 4,850 workers, of which 297 are doctors, 981 are nurses, and 1,472 are nursing staff. In this case, the basic trend that causes an additional need for labor is the aging of the population and the migration of health workers abroad.

The same is true of the information and communication sector, where an additional workforce of 12,950 people is expected.

The second group of industries are those in which the need for labor will decrease in the future. The first is the industry sector, in which we can see a decrease in the additional labor force of up to 39,750 persons. Another sector belonging to this category is education, in which a decrease in the need for labor in 2028 by 975 people can be seen. The result is not surprising, given the decreasing dynamics of the increase in the number of children and the compensation of work through technological changes.

We attribute the decrease in demand for labor in the transport sector mainly to the increasing number of drivers and cars and the reduced interest in public mass transport. In the same way, we can also include the fact that public mass transport is increasingly less satisfactory and frequent, and therefore insufficient for people to cover their time and other plans. The last monitored sector is financial and insurance services, in which a reduced demand for workers was also recorded.

Considering the extensive collected data, it can be confidently stated that the population of Slovakia is aging, the dynamics of aging is accelerating, the reproduction of the labor force is reduced, there is not enough labor on the labor market, the forecasts for the future are not favorable, and the sources of labor supply are exhausted. The only way out is to "create" a sufficient job offer. In practice, several steps can be taken. The first of them is the promotion of employment and the creation of conditions for non-working groups of the population (unemployed, long-term unemployed, health-impaired and others). The second solution is to support the employment of people of pre-retirement age or to focus on people of retirement age who have already left the labor market. Focus on motivating them and making them want to return to the labor market. Given that neither migration, nor automation, nor technological progress will sufficiently cover the needs of the labor market, there is no other option than to turn to people included in the post-productive part of the population, or people in pre-retirement age.

The results of this research confirm the increasing dynamics of population aging, which is becoming one of the most fundamental demographic trends of the 21st century. This process reflects the aging index, but also the share of the population in post-productive age to those in productive age. The findings correspond with Blien (2020), who points out that the increasing share of older people in the labor market can lead to a decrease in its efficiency and confirm warnings about labor shortages, which are in line with Wysocka's (2021) analyses.

Labor shortage is becoming an increasingly serious challenge, as the share of the economically active population in the younger age groups (15-24 and 25-34 years). This decrease is important from the point of view of economic growth and sustainability, as fewer persons of productive age means a reduced supply of labor force, which can directly affect economic stability (Mitra, 2022).

In addition to the quantitative decrease of the labor force, we also encounter the issue of quality. An aging population can lead to reduced productivity and a change in the structure of industry, as Davis (2022) points out. In this context, it is important to note that some sectors, such as healthcare and information technology, are already facing a shortage of additional labor, underscoring the need for targeted policies to support employment and retraining.

Labor force reproduction is proving to be a critical factor. My analysis suggests that reduced labor force reproduction can have long-term effects on a country's economic development. As the authors state, demographic changes not only affect the labor supply, but also the composition of the workforce, which creates new challenges for employment policies (Kartúzová, 2020; Zubiková, 2021).

The results indicate that if countries are not able to adapt to these demographic changes, they may

face significant economic and social problems, including a decline in economic growth and increased unemployment. Therefore, it is necessary to implement comprehensive policies that deal not only with the integration of older workers into the labor market, but also with the reform of pension systems and investments in human capital and technology (Papapetrou, 2020; Grigoli, 2022). Such strategic planning is key to ensuring sustainable economic development in the coming decades.

Conclusion

The aim of the research was to specify the aging of the population in the Slovak Republic and its impact on the labor market, which affects the economic and social situation in Slovakia. As part of the research, various processes characterizing aging were investigated, which gave us an overall picture of the aging population in Slovakia and its impact on the labor market. The results of the research showed that population aging is taking place in Slovakia, which is constantly increasing its dynamics, and the effects on the labor market can be seen in the changing volume and structure of the workforce.

The research brings results about aging, which claim that the aging process is accelerating and its dynamics are increasing, the number and share of the population in the post-productive component is constantly increasing, the load on the productive and pre-productive component is increasing, the age structure of the workforce is changing and its volume, the share is decreasing of the economically active population aged 15-24 and 25-34, I note the reduced reproduction of the labor force and its lack on the labor market. I focused on researching selected sectors of the economy based on population consumption, which showed that the need for additional labor is expected in the health and information and communication sectors. The results of the research showed that population aging is taking place in Slovakia, which is constantly increasing its dynamics, and the effects on the labor market can be seen in the changing volume and structure of the workforce.

The results bring a wide range of stimuli for solving the negative and unfavorable effects of aging on society and the labor market. Countries should adapt employment policies, approach the use of flexible forms of work, simplify the integration of older workers into the labor market. The reform of pension systems is also worth mentioning. Likewise, investments and renewal of educational and retraining activities, investing in human capital and technology. Strategic planning can ensure the increase of the country's economic growth, labor productivity, the country's competitiveness, the stability of the labor market and, last but not least, it will ensure sustainable economic development in the future.

The research was limited to only one country, which means we lost the opportunity to compare and examine and compare the global aging trend. The advantage remains that the methodology used is applicable to any country, which could contribute to expanding knowledge and scientific discussion on the given topic.

REFERENCES

A', N., Yaziz, M. M., & Azlina, A. A. (2020). Population ageing and energy consumption for sustainable development. International Journal of Environment and Sustainable Development, 19(3), 241. https://doi.org/10.1504/IJESD.2020.108138

Adamec, V., & Střelec, Luboš. (2020). Ekonometrie I: Cvičebnice (4. upravené vydání). Mendelova univerzita v Brně.

Armstrong-Stassen, M. (2008). Human resource practices for mature workers—And why aren't employers using them? Asia Pacific Journal of Human Resources, 46(3), 334–352. https://doi.org/10.1177/1038411108091755

Barsukov, V., & Kalachikova, O. (2020). The Evolution of Demographic and Social Construction of the Age of "Old Age". Economic and Social Changes: Facts, Trends, Forecast / Экономические и социальные перемены: факты, тенденции, прогноз, 1 (67). https://doi.org/10.15838/esc.2020.1.67.2

Blien, U., & Hirschenauer, F. (2020). Labour Supply and Regional Labour Market Situation. Raumforschung und Raumordnung | Spatial Research and Planning, 78(6), 595–613. https://doi.org/10.2478/rara-2020-0033

Cooley, T., & Henriksen, E. (2018). The demographic deficit. Journal of Monetary Economics, 93, 45–62. https://doi.org/10.1016/j.jmoneco.2017.11.005

Cylus, J., & Al Tayara, L. (2021). Health, an ageing labour force, and the economy: Does health moderate the relationship between population age-structure and economic growth? Social Science & Medicine, 287, 114353. https://doi.org/10.1016/j.socscimed.2021.114353

Davis, C., Hashimoto, K., & Tabata, K. (2022). Demographic structure, knowledge diffusion, and endogenous productivity growth. Journal of Macroeconomics, 71, 103396. https://doi.org/10.1016/j.jmacro.2021.103396

Fernandes, F., Turra, C. M., & Rios Neto, E. L. G. (2023). World population aging as a function of period demographic conditions. Demographic Research, 48, 353–372. https://doi.org/10.4054/DemRes.2023.48.13

Grigoli, F., Koczan, Z., & Topalova, P. (2022). Calling older workers back to work. Applied Economics Letters, 29(6), 559–566. https://doi.org/10.1080/13504851.2021.1876205

Huang, W.-H., Lin, Y.-J., & Lee, H.-F. (2019). Impact of Population and Workforce Aging on Economic Growth: Case Study of Taiwan. Sustainability, 11(22), 6301. https://doi.org/10.3390/su11226301

Kartuzova, M. (2020). Work Practices of Older Population Groups: Reasons for Choice. Journal of Economic Sociology, 21(1), 81–99. https://doi.org/10.17323/1726-3247-2020-1-81-99

Kostrová, J. (2019). Zmeny vo vekovej a vzdelanostnej štruktúre obyvateľstva a ich vplyv na trh práce (Dizertačná práca). Trenčianska univerzita A. Dubčeka v Trenčíne, FSEV KMaRĽZ. Citované 9. októbra 2024. Dostupné na https://opac.crzp.sk/?fn=detailBiblioFormChildM3M1SR&sid=8E0A01F6D74C9FCBC84FE91E231C&seo=CRZP-detail-kniha

Kratt, O., & Kirnos, I. (2020). Cross-national analysis of the older workers' employment rate. SHS Web of Conferences, 73, 01014. https://doi.org/10.1051/shsconf/20207301014

Lee, H.-H., & Shin, K. (2021). Decomposing Effects of Population Aging on Economic Growth in OECD Countries. Asian Economic Papers, 20(3), 138–159. https://doi.org/10.1162/asep_a_00839

Mason, A., Lee, R., & members of the NTA Network. (2022). Six Ways Population Change Will Affect the Global Economy. Population and Development Review, 48(1), 51–73. https://doi.org/10.1111/padr.12469

Mitra, R., & Abedin, M. T. (2022). Does a shrinking labor force reduce FDI inflows in OECD countries? Applied Economics Letters, 29(17), 1654–1658. https://doi.org/10.1080/13504851.2022.2025996

Novak, V., Vidmar, A., Jerebic, J., & Brezavšček, A. (2023). Employers' Efforts to Encourage Older Workers to Retire Later—A Case Study of Large Companies in Slovenia. Organizacija, 56(3), 184–205. https://doi.org/10.2478/orga-2023-0013

Papapetrou, E., & Tsalaporta, P. (2020). The impact of population aging in rich countries: What's the future? Journal of Policy Modeling, 42(1), 77–95. https://doi.org/10.1016/j.jpolmod.2019.12.002

Pu, X. (2023). Research on the Aging of Global Workforce and Solutions. Advances in Economics, Management and Political Sciences, 56(1), 7–14. https://doi.org/10.54254/2754-1169/56/20231045

Rocha De Jesus Fernandes, A., & Lanza Queiroz, B. (2024). Aging, education and some other implications for the silver dividend in developing countries: Evidence from Brazil. The Journal of the Economics of Ageing, 27, 100497. https://doi.org/10.1016/j.jeoa.2023.100497

Samaniego, R. M., & Sun, J. Y. (2019). Uncertainty, depreciation and industry growth. European Economic Review, 120, 103314. https://doi.org/10.1016/j.euroecorev.2019.103314

Simkova, M., & Langhamrova, J. (2017). Tertiary sector in relation with population ageing. V T. Loster & T. Pavelka (Ed.), 11th International days of statistics and economics (s. 1605–1614). melandrium.

United nations department for economic and social affairs. (2024). World population ageing 2023: Challenges and opportunities of population ageing in the least... developed countries. United nations.

Wysocka, M. (2021). Effect of Demographic Changes on the Labour Supply in Lithuania and Poland. Engineering Economics, 32(1), 35–47. https://doi.org/10.5755/j01.ee.32.1.25087

Zubíková, A., Švejnová-Höesová, K., & Chytil, Z. (2021). Selected Determinants of Employment of Persons in Post Productive Age on Labour Market in Czech Republic and Slovakia. Politická ekonomie, 69(2), 170–192. https://doi.org/10.18267/j.polek.1302

Contact:

Ing. Alexandra Hoťková
Faculty of Social and Economic Relations
Alexander Dubček University in Trenčín
Študentská 3. 911 50 Trenčín
Slovak Republic
e-mail: alexandra.hotkova@tnuni.sk

NET PRESENT VALUE (NPV) AS THE EVALUATION METHOD FOR THE INVESTMENTS IN HUMAN RESOURCE (HR) DEVELOPMENT

Monika KLEINOVÁ

Abstract

First of all we have to realize that human resources are the most valuable asset of the company. Effective human resource management (HRM) is not only to ensure the wellbeing of employees, but also is a valuable foundation for creating and maintaining a sustainable culture. This paper explores the challenges of HRM in the context of aligning financial objectives with human resource (HR) development goals. It would be helpful to estimate the future value of the impact of HR development on a company's revenue. When financial and HR managers evaluate an opportunity to invest in HR, they can use the Net Present Value (NPV) method. In literature is NPV defined as the sum of investment´s expected cash flows discounted back to their present value at a company-agreed risk-adjusted rate. The model of NPV presented by Matei et. al. (2024) provides us the view of HR development as a project which allows setting up the priorities in comparison with the company´s current activities. But this model doesn't consider the possible risk that may occur from external or internal environment of the company. Some of them we pointed out on the concrete examples of the investment area in HR development and the risk groups that might affect the NPV evaluation. By applying data collected from questionnaire, analysis of external environment and literature we set up the research goal. The question is if the proposed model of NPV calculation is applicable for HRM development. There is potential for further exploration.

Key words:
Human resource (HR) development, sustainability, investments, net present value (NPV), job satisfaction questionnaire, risk-adjusted rate

JEL Classification M52. M54, M14 https://doi.org/10.52665/ser20240205

INTRODUCTION

COVID-19 pandemic completely changed the landscape of organisations. Lot of challenges especially for HRM professionals have been raised. They had to work closely with management to cope with the transformation changes. Organizations were forced to adapt the way they organized the work and design the job (Collings 2021). Working in teams turned into virtual teams at the time of the pandemic. Companies had to schedule working hours for their employees to stay happy and maintain their performance. The employees had to face the communication problems, lack of motivation, family problems and fear for their health. The areas such as morale management and motivation, health and wellbeing, communication were identified at that time as the main challenges of the pandemic in the field of human resource management (Wenham 2020).

The challenges associated with sustainable HRM often lead to reduce the investments into employees. Therefore it is important to align the company´s financial targets with HRM objectives. When financial and HR managers evaluate the opportunity to invest in HRM development, they can use NPV method. The definition of NPV is based on the discounted future cash flows. The companies assume that the same amount of the money in the present has higher value than in the future. Therefore the future cash flows are discounted to their present value. Discount rate reflects the time value of cash flows and the risk of future cash flows which should be consistent with economic condition of the company.

First part of the research is devoted to a brief literature review and applied formulas, material, methods when the research question is formulated. The results of our research are presented in the part under discussion and

conclusion. The paper is enclosed by references to used resources.

2. Literature overview

It is a well known fact that the most important factor in the successful company is its human potential. The basic determinant of an enterprise´s productive capacity is the potential of labour. It means the level of employment, the qualification of employees, their skills, experience and the efficiency of their work expressed in terms of their labour productivity (Kotulič 2010). The results of Shantini, Ferdinand and Suparti´s research showed a significant effect of motivation, leadership and work environment on employee performance. While motivation was the most dominant factor influencing employee performance, job satisfaction played the most important role in the development of employee satisfactions (Shantini 2021). Expected results of the individual and the whole team work depend on motivation. It is the key for managers to increase the productivity of the work through motivation program (Gozora 2017). We agreed with Asthana in her study with general statement that workforce diversity, leadership development, change management, organizational effectiveness, globalization, e-commerce, succession planning, and pay are just a few issues that HR must handle (Asthana 2024).

Digital transformation and HRM is vital in every organization. The implementation of automation in manufacturing processes, artificial intelligence and cloud computing through digital transformation initiatives has brought the need of employees to obtain new skills. The organizations give an emphasis to support the employees through various strategies, such as training and development programs, providing access to online learning resources, and promoting the continuous learning. Based on study of Kaur et. al. digital transformation is crucial for modern organizations. HR plays a critical role in this process by supporting the adoption of new technologies and adapting to new ways of working. By doing so, organizations can improve their effectiveness and remain competitive in today´s rapidly changing business environment (Kaur 2023).

Everything we pointed out so far suggests that investments in HR development are essential to secure its sustainability. In the theory and practice of financial management exists several methods which are used for the effectiveness of the project evaluation in HR. NPV is one of the most useful and precise techniques. NPV is defined as difference between net price values of all future cash income from investments and all net values of capital expenditures spent on related investment (Janekova 2010). In the research of Matei et. al. (2024) they propose the integration of financial tools into sustainable HRM strategies, with a specific focus on sustainable practices. By employing the adapted NPV and future value (FI) methods to establish the feasibility of HR development, the quality of sustainable HRM in a company can be enhanced. This in turn, enables companies to grow in a sustainable manner. However this proposed model should be tested in practice and make adjustments if necessary (Matei M. 2024).

For the initial investments the influence of the seasonal and random changes in the general environment on the companies´ activity through modification of the discount rate is illustrated in the research focused on factors influencing of cash flows (Hoshovska O. 2023). They declare the same as authors above that one of the most effective means to access the effectiveness of an investment is NPV, the total amount of discounted net cash flow. In their model they focus on different factors impacting the discount rate on the financial result of NPV calculation. Considering the presented data, the risk of a critical characters and random factors influencing the meaning of discount rated therefore they should be monitored at the first place.

3. Goal and Methodology

The research is focused on company which performing its business as a supplier for automotive industry, established in Slovakia. This industry sector was very sensitive to any changes especially of external environment during COVID-19 and energetic crises. Firstly we did some short overview about the current situation and challenges in the area of HR on Slovak market. Then for the analyses of internal environment we identified the factors that could affect the labour productivity through created and in this company applied questionnaire. The

population for this study were all internal employees of the company who are directly involved into production process, in total of 46 employees. Except of applied questionnaire we use other methods like observation and interview with management team of the company about the potential investments into HR in an effort to improve the employees' satisfaction and labour productivity.

By analyzing the external environment we identified the opportunities and threats to current situation on labour market as of 2024 on Slovak market. The results of internal and external environment analyses could bring us some ideas about possible investments in HR development. For the further exploration of investment opportunities we use model of NPV calculation, proposed by Matei et. al. (2024). This approach treats HR development investments as a project similar to other economic project within the company.

Applying NPV method:

$$NPV = PV - IC \quad (1)$$

NPV - net present value
PV - present value of the future increase in the firm's revenues
IC - implementation cost for the HR development method i.e., the amount that must be paid for the training session or for the course.
Calculation of present value of future impact of the investment:

$$PV = FI / (1 + r) n \quad (2)$$

where:
PV - the present value of the future impact of the investment
FI - the future impact of the investment
r - the average profit rate at the firm's level
n - the number of years in which the impact should happen.

Further methodology used for this study is qualitative research using document analyses, case studies and comparative studies which are available in literature. The scientific methods were the elements to develop the selected topic with the intention of answering the research question:

"Is the proposed model of NPV calculation as investment evaluation applicable for the financial substantiation of HR development?"

External factors influencing HR in Slovakia

Employers on the Slovak market are facing with the challenge how to fight with the labour shortage. There is a shortage of skilled specialists as well as workers for manufacturing plants and the food service sector. Slovakia has a major demographic problem. People born between 1970 and 1985 are the strong generation of productive age in their fifties. Companies need to keep highly skilled employees in middle age, because replacing them might be too difficult and expensive in this period. Automation, digitalization, robotics and artificial intelligence (AI) are rapidly transforming the way of people work.

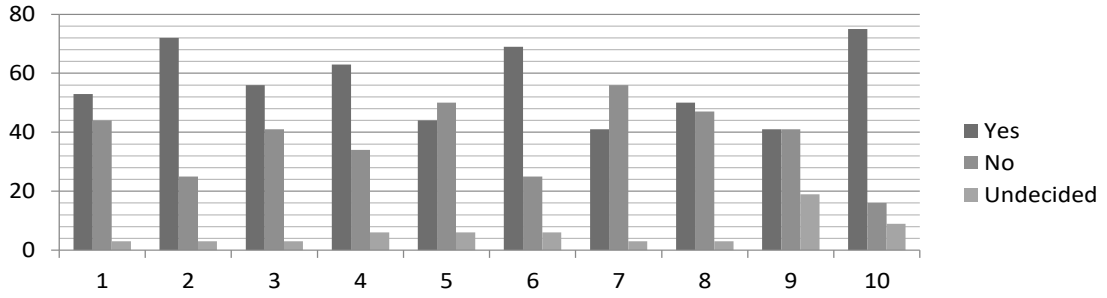
Employees looking for meaningful work, flexible working hours that fit into their lifestyles, opportunity continually develop new skills, adequate compensation. To succeed, the organizations must also have clear their attitude on social, political and environmental issues. The pandemic has changed the work environment and opened discussions about the priorities of employees versus the requirements of employers. For example the employees are emphasizing on work life balance, especially at younger age. Up to 55% of managers predict that investments on green business transformation and environmental issues will become a major source of new jobs over the next 5 years. Therefore a key role of managers in Slovakia is to support the continuous improvement of employees´ qualifications in connection with the changes in working process (Trend 2024).

Employees Satisfaction Survey Questionnaire

The questionnaire can be used as a supporting method complementing other methods of the research study, which helps us to get a deeper understanding of the current internal situation of the manufacturing enterprise. The aim of the questionnaire was to obtain feedback from the company´s employees on their satisfaction with the working environment,

working equipment and working processes. The questionnaire was anonymous, consisting of semi-opened questions with predefined alternatives for answers. It offers also the possibility of expressing the own opinion by the end of each question. The predetermined answers were "Yes" or "No". Those who marked both answers we put in the undecided or "Don´t know" category. We approached the sample of respondents who are directly involved in the production process. From 46 respondents, 32 respondents (70%) participated on the survey, which can be considered as a successful return rate. Return rate between 60-70% is considered as acceptable (Reichel 2009). The results of the questionnaire are shown in the chart below.

Fig.1. Questionnaire evaluation results



Source: author's calculations

Detailed evaluation of the questionnaire – internal factors

Question 1: Are your work tasks clearly defined and communicated to you?

Result: feedback from respondents between yes (53%) and no (44%) was almost equal. Those who were not satisfied had comments like: even the jobs tasks are clearly defined, over sometime they are forgotten; the communication between each shift doesn´t work effectively; the reason for the poor communication is pointed out on the way how the communication is handled from the direct supervisor to the foreman; negative side is that the important information is shared too late, usually when a problem occurs.

Suggestion: investment in professional communication trainings in terms of improving the soft skills of the employees. Trainings within small groups of employees together with the direct supervisor would be useful. Based on the research of Fasiha, it was proved that the organizational communication significantly influences employee job satisfaction. For this reason, PT Hadji Kalla Toyota Company should properly maintain and improve organizational communication by creating a work environment that is not rigid, because a rigid work environment can cause that the communication between employees would decrease (Fasiha 2023). Effective communication is not only the bridge that connects the leaders and team members but also ensures that the company´s vision, mission and innovation goals are clearly communicated throughout the organisation (Sudirjo 2023).

Question 2: Are there many processed and procedures in your work area that are not working well?

Result: there was a significant difference in the answers. Up to 72% respondents say that work processes are not working properly. Again, the emphasis is on the lack of communication at all levels. Another aspect leading to dissatisfaction are missing well prepared work procedures and processes, e.g. the procedure for packaging for some specific production is the most repeated problem.

Suggestion: digitalization, expending the AI solutions and robotics preparing the ground for new industrial trends that make the framework for a new industrial era. These trends are having the serious impact on human resource management and the work performed by people. At the same time they represent important key matters regarding security threats to organization (Maddikunta 2022). Organization should give an

attention to transition from Industry 4.0 (technology-driven) to Industry 5.0 (value-driven) (Putra 2024).

Question 3: Do you have the necessary tools and recourses to do your job effectively?
Result: more respondents (56%) were satisfied with the availability of tools and resources supporting their work. Nevertheless, there are the areas and processes where the necessary tools are missing or have some deficiencies.
Suggestion: managers should give their attention how to increase the productivity in manufacturing firms. This area is very important for the survival and sustained achievement of company´s goals. Organizations should measure the productivity by how well resources are combined and use it in terms to achieve the desired outcomes and needs.

Question 4: Do semi-automated or automated devices help you in your daily work?
Result: 63% of respondents expressed the satisfaction that process automation which helps them at work. Dissatisfied were 34%, stating that most workstations do not work properly or that automation is placed only for one project.
Suggestion: various studies highlight the importance of up skilling the workforce to keep the trend with automation. The future of manufacturing depends on matching technological innovations with a skilled and adaptable workforce. It leads to support the symbiotic relationship between humans and machines (Olurin 2024).

Question 5: Is the equipment used in your work sufficiently reliable?
Result: around 50% of respondents were dissatisfied. They claim that everything is fine for new machines but not sufficient maintenance is done for older ones. Another claim is that there is missing an approach to find some solution how to avoid the regular breaking down of some older machines.
Suggestion: the robotic system automation is considered as a key technology of the Industrial Revolution 4.0. It is necessary to implement elements of *smart factory* in production process. Smart manufacturing supported by robotics enables interactive communication between intelligent machines to exchange data and information which is essential for complex systems to make real-time decisions and secure the on-time maintenance in their work environment.

Question 6: Would you change the system of your work performance recording?
Result: up to 69% respondents were inclined to the opinion that they would like to change the system of work performance recording, 25% were satisfied and 6% had no opinion. There is a need to improve this system because of large differences between the operators performance are not compensated equally.
Suggestion: in the production process, the productivity improvement means to produce more products or to reduce the cost of the products. Labour productivity is one of the main indicators of continuous performance improvement and determines successful fulfilment of the company´s goals. Its measurement evaluates the efficiency and the effectiveness of the used resources, thus productivity becomes the most realistic path to sustainable growth (Krauszová 2007). HRM must ensure that the employee´s measurement is fairly recorded and subsequently fairly rewarded.

Question 7: Are you comfortable with the ergonomics and layout of the workplace?
Results: positive view expressed 41% of respondents, negative 56%. One of the opinions was that the layout of the production hall doesn´t fulfils the ergonomic requirements and material flow diagrams. Complaints are mainly related to small and narrow spaces in the workplaces.
Suggestion: the *direct* employee usually fights with high psychological stress due to characteristics of the environment, complexity or the repetitiveness of the task or the organization of the work. Modern technology reduces heavy physical work, speeds up the work processes and increases the flexibility. On the other hand incompleteness systems, lack of experience, inadequate training and inappropriate workplace design can lead to musculoskeletal diseases (Swaroopa 2022).

Question 8: Are you satisfied with the equipment from the safety point of view?
Results: 50% of respondents were satisfied, 47% not satisfied.
Suggestion: in a study of Wang when he investigate the reasons of workplace injuries in manufacturing process. Their found that 88% arising due to *unsafe movements* and 12% due to

unsafe situation. Safety management is essential to ensure human-centred manufacturing as defined in Industry 5.0 (Wang 2023). Safety at work must be at first place in each organization.

Question 9: Does the company give enough space to implement the employee´s or new innovative ideas of the organization?
Results: 41% were positive, 41% were negative, up to 18% don't comment it. The company gives the space for improvement suggestions implementation. Of course it depends on the cost.
Suggestions: the employees need to have a confidence that their ideas have some value. The company must provide them with communication channels that allow them to express their ideas without any fear or barriers. It is important to note that reward policy should be integrated into human resource management strategy in order to motivate employees for generating innovative ideas. Recognizing and rewarding innovative achievements create a work culture that supports employee creativity.

Question 10: Would you welcome innovative solutions to make your job easier despite the increase of work performance requirements?
Results: up to 75% respondents would welcome innovative solutions, 16% were negative, 9% did not express any opinion. Technical and technological problems usually slowed down the performance and it resulted to lower motivation.
Suggestions: for the development of expertise and competences of the employees is essential to strengthen the organisation´s innovation capabilities. Continuous learning and development programs that enable the employees to improve their skills and knowledge have become as a key issue. Visionary type of leadership and open communication are essential to create an environment that motivates employees for active participation on innovation process.

4. Findings and discussion

From the questionnaire is determined the need for significant investment in personal training or specific training programmes with emphasis on professional development. Education positively affects innovativeness (Ključnikov 2021). One of the most monitor indicators for managerial decision making is productivity. Labour productivity is carefully monitored and is one of the main indicators of continuous performance improvement. A qualified and competent workforce ensures higher productivity and efficiency. Educated employees represent a strategic advantage for the company. Furthermore, education influences the perception of business risk (Dvorsky 2021).

New technologies such as AI, cloud computing, and block chain offer promising opportunities to improve recruitment, training, performance evaluation, and other key HR activities. This indicates the need to ensure the right balance between automation and HRM needs. For example, the integration of smart technologies such as artificial intelligence (AI) and virtual reality (VR), can enhance training and development programs, improve recruitment processes, and provide better employee engagement tools (Destriani 2024). The biggest HRM challenges and issues will be the strategies in the area of the labour productivity, health and safety issues, up-skilling and re-skilling of workforce and staff (Kumar 2024).

Net Present Value (NPV) is a financial indicator often used for capital expenditure budgeting and investment planning. It could also be applied in HR development area. Matei et. al. (2024) introduced the method of NPV that could be valuable for estimation of the future value of the impact of HR development on the firm´s revenues. They consider the average rate of return as an investment alternative instead of a risk-free deposit rate in a bank. If we take into account that HR development allows prioritisation against the company´s activities and brings higher revenue than usual business operations, managers should support these activities. The authors highlight that estimating the future value of the impact on company´s revenue is challenging as it depends on the nature of the company´s activities and the scale and quality of the HR segment being developed.

The social and economic changes as the result of pandemic, as well as, the recent political and risk factors can affect the projected cash flows from investments in HR development. Hoshovska (2023) introduced a model using the risk-adjusted discount rate for NPV in the following way: risk-adjusted discount rate, which could be equal to risk-free

discount rate (for normal risk projects), higher (for above-normal risk project), or lower (for below-normal risk project), is applied for calculation of the discounted value of the business cash flow. Data in table are taken from the result of the employees' satisfaction survey questionnaire.

Table 1: Factors relevant for NPV measurement

Investments (cost)	Benefit (revenues)	Risks-adjusted discount rate
communication trainings trainings to improve skills increase abilities and competencies preparation of HR for new industrial area (digitalization, AI solution, robotics) smart factory implementation innovation process participation	retained earnings increased labour productivity higher interest of employees for innovations, safety at the workplace, social responsibility lower employee turnover increased the competencies	demand risk competition risk demographic situation price risk state regulations seasonal fluctuation economics recessions political instability natural disasters

Source: author's calculations

To estimate the future value of the impact of investments in HR development on company´s earning is challenging because it depends on the nature of company´s operations, scope and quality of the HR segment being developed. Training and courses that improve the quality of HR required cost-benefit analyses. Decision whether to take temporary employees away from their normal tasks to attend courses also include the financial cost.

Conclusion

In conclusion, the integration of NPV into HR development processes presented by Matei et. al. (2024) could facilitate decision-making capabilities. However, the successful application of NPV method requires incorporates a range of financial and non-financial factors, as well as, to understand the strategic objectives of the organisation for HR development. Strategy objectives for the current period are based on a diverse global workforce that is driven by purpose and committed to sustainability. Developing and implementing policies and programs that promote inclusive and diverse hiring, professional development opportunities, comprehensive benefits, and fair compensation is the key when aiming to attract, develop, and retain talent. Although it is very difficult to enrich the benefits of HRM development, we recommend that the companies should consider NPV method for calculation of investments.

Recommendations for future research would be for the practical studies which require using sophisticated statistical techniques to estimate future cost and revenues. The impact of changes of internal or external variables on company policy should be examined in terms of extensive sensitivity analysis.

REFERENCES

Asthana A. (2024). A study of Human Resource Management in 21th Century International Journal for Multidisciplinary Research. E-ISSN 2582-2160.

Auria D. &Mauro S. (2024). Innovative Self-Management of Knowledge to Thrive through Crisis: The Employees' Perspective. Journal of the Knowledge Economy, DOI 10.1007/s13132-023-01719-6.

Ardelia A. & Rochani R. & Damayanti R. (2024). Developing a Model of the Influence of Organizational Culture on Employee Performance and Job Satisfaction at PT. XYZ with PLS-SEM Method, DOI 10.20961/performa.23.1.82275.

Badmus A. (2023). Implementing Technology Manufacturing with Robotics Process Automation (RPA). Journal of Knowledge Learning and Science Technology, ISSN 2959-6386.

Collings, D. G. & Mcmackin, J. & Nyberg, A. J. & Wright, P. M. (2021). Strategic Human Resource Management and COVID- 19: Emerging Challenges and Research Opportunities. Journal of Management Studies, 58(5), pp. 1378–1382. ISSN 0022-2380.

Destriani R. & Adhimata R.Y. & Sensuse D.I. & Hidayat D.S. & Purwaningsih E.H. (2024). Challenges and Technology Trends in Implementing a Human ResourceManagement System: A Systematic Literature Review. Journal of Information Systems Engineeringand Business Intelligence, http://e-journal.unair.ac.id/index.php/JISEBI.

Dvorsky, J. & Belas Jr. J. & Cera G., & Bilan, S. (2021). Disparities in the perception of business risks in connection with the achieved education of the owner/manager and doing business. International Journal of Entrepreneurial Knowledge, 9(1), 25-40, https://doi.org/10.37335/ijek.v9i1.123.

Saria F. & Suharto & Alisyahbana A. & Isma A. (2023). How does Organizational Communication affect Job Satisfaction among Employees of Automotive Companies?, Fundamental and Applied Management Journal, E-ISSN 2988-6341; P-ISSN 2988-6333.

Gozora V., Krízový manažment podniku (2017). Wolter Kluwer, Praha, ČR, ISBN 978-80-7552-805.

Hoshovska O. & Poplavska Z. & Kajanová K. & Trevoho O. (2023). Random Risk Factors Influencing Cash Flows: Modifying RADR, Mathematics, https://doi.org/10.3390/math11020427.

Ioneles S. (2023). Supplier selection strategy – NPV comparison, The Romanian economic journal, DOI: 10.24818/REJ/2023/85/07.

Janeková J. & Kadárová J. (2010). Manažment investičného rozvoja podniku, TU, SjF, ISBN 978-80-553-0429-8.

Kamalakann A. (2024). The integration of Digital Transformation with Human Resource Management – s theoretical point of view, International Journal of Scientific Research in Engineering and Management, ISSN: 2582-3930, DOI 10.55041/IJSREM28895.

Kaur & Satisnger & Gurwinder & Kumar (2024). Digital Human Resource Management Paving the Way for Success. International Research Journal of Modernization in Engineering Technology and Science 5(06): 3719–27.

Korkut I. & Várrallyai L. (2024). The effect of digitalisation for industry 4.0, Journal of Agricultural Informatics, DOI 10.17700/jai.2023.14.2.706.

Kotulič R. & Kurály P. & Rajčániová M. (2010). Finančná analýza podniku, Wolter Kluwer, Bratislava, ISBN 978-8078-342-6.

Ključnikov, A., et al. (2022). Financial performance and bankruptcy concerns of SMEs in their export decision. Oeconomia Copernicana, 13(3), 867–890. https://doi.org/10.24136/oc.2022.025.

Kmecová I. & Androniceanu A. (2024). Level of investments in human capital in SMEs as a means of further development and increased competitiveness, Journal of Competitiveness, DOI 10.7441/joc.2024.01.05.

Krauzová, A. (2007). Techniky a prístupy podporujúce rast produktivity, In: Novus scientia, s.285-289, 2007, ISBN 978-80-8073-922-5.

Maddikunta P. (2022). Industry 5.0: A survey on enabling technologies and potential applications, Journal of Industrial Information Integration, DOI 10.1016/j.jii.2021.100257.

Matei M. & Abrudan L. & Abrudan M. (2024). Financial Perspective on Human Capital: Building Sustainable HR Strategies. Sustainability, https://doi.org/10.3390/su16041441.

Olurin T.O. & Okonkwo F. & Eleogu T. et. al. (2024). Strategic HR Management in the Manufacturing Industry: Balancing Automation and Workforce Development. International Journal of Research and Scientific Innovation DOI: 10.51244/ijrsi.2023.1012030

Putra A. & Muslim M.A. (2024). The literature review analysis of the human resource resources development in the industry era 4.0 towards the era of society 5.0, ISSN: 2668-778X.

Radha P. & Aithal P. (2023). Exploring the Nexus Between Human Resource Management (HRM) and Enterprise Resource Planning (ERP) in Manufacturing: A Comprehensive Examination of Strategies, Challenges, and Integration Dynamics, International Journal of Applied

Engineering and Management Letters, DOI 10.47992/ijaeml.2581.7000.0201.
Reichel J. (2009). Kapitoly metodológie sociálnych výskumu. Grada, Praha, ISBN 978-80- 247-3006-6.
Roopa D, V. (2023). Challenges of HR managers in remote working after post-COVID pandemic. BOHR International Journal of Operations Management Research an Practices, https://doi.org/10.54646/bijomrp.2023.17.
Rudy J. & Sulíková R. & Lašáková A. & Miková Ľ. (2013). Manažment a organizačné správanie. MNWissenschaft, Münster, ISBN 978-3-86991-913-3.
Shantini R. & Ferdinandus C. & Suparti (2021). The Effects of Motivation, Leadership, and Work Environment on Employee's Performance: A Case of Local Government Agency in Emerging Country. Britain International of Humanities and Social Sciences (BIoHS) Journal, 3 (2), 347-360.
Stacho Z. & Lizbetinová L. & Stachová K. & Stareček A. (2022). The Application of Progressive HR Tools in the Environment of Slovak Enterprises, Journal of Competitiveness, DOI:10.7441/joc.2022.03.10.
Sudirjo F. & Ausat A. & Rijal S. & Riady Y. & Suherlan S. (2023). Improving Communication Efficienty and Business Management. Innovation Journal of Social Science Research, doi: https://doi.org/10.31004/innovative.v3i2.347.
Susantinah N. & Krishernawan I. & Murthada (2023). Human Resource Management (HRM) Strategy in Improving Organisational Innovation. Journal of Contemporary Administration and Management (ADMAN), Indonesia, ISSN 2988-0394 Print / 2988-3121.
Swaroopa D. & Sreenivasulu R. (2022). The impact of human resource management (HRM) practices on employee satisfaction level and performance. Journal of Management and Science, DOI 10.26524/ms.12.3.
Yang Z. (2024). Transformation in Organizational and Human Resource Management in the Digital Intelligence Age, SHS Web of Conferences, DOI 10.1051/shsconf/202418104030.
Zahroh F. & Safvitri C. & Iriani I.(2024). Human Resource Development Human Resource Management to Increase Job Satisfaction, Indonesian Journal of Contemporary Multidisciplinary Research, DOI 10.55927/modern.v3i1.7321.
Zihan W. & Makhbul Z. (2024). Green Human Resource Management as a Catalyst for Sustainable Performance: Unveiling the Role of Green Innovations. Sustainability (Switzerland), ISSN 20711050.
Zöllner K. & Sulíková R. (2022). Enhancing employees' motivation amid the crisis of COVID-19. Journal of human resources management research, s. 1-26, ISSN 2166-0018.
Vraňáková N. (2023). The impact of the COVID-19 pandemic on human resource management priorities. Scienso, DOI 10.2478/rput-2023-0005.
Wang H. (2023). Industry 5.0′s human-cantered manufacturing based on digital twin. Journal of Manufacturing Systems, ISSN 02786125, DOI 10.1016/j.jmsy.2022.11.013.
Wenham, C. & Smith, J. & Morgan R. (2020). COVID-19: the gendered impacts of the outbreak. The Lancet, 395(10227), pp. 846–848. ISSN 0140-6736.
https://www.trend.sk/financie/nove-postupy-hr-viac-pozornosti-zaujmom-zamestnancov-pozrite-10-trendov-trhu-prace/10

Contact:

Monika Kleinová, Mgr.
Department of Economics and Finance
Faculty of Management
Comenius University Bratislava
Odbojárov 10
820 05 Bratislava
Slovakia
email: kleinova68@uniba.sk

TRENDOVÝ LEADERSHIP 21. STOROČIA
TRENDY LEADERSHIP OF THE 21ST CENTURY

Ingrid NOVÁ ALMÁŠI

Abstrakt: *Vedenie ľudí v tomto storočí vyžaduje nové prístupy, zručnosti a aj adaptáciu na neustály vývoj ľudskej spoločnosti. Tento článok ponúka iný pohľad na možnosti pri vedení ľudí. Polemizuje o tradičných riadiacich štýloch manažéra. Jeho cieľom je poukázať na dôležitosť význam prechodu z role manažéra do role lídra. Porovnáva rôzne štýly vedenia ľudí a poukazuje na pozitívny vplyv koučovacieho prístupu a otvorenej komunikácie. Dôležitou súčasťou lídra je aj iný pohľad na plánovanie času (timemanažment), ktorý podporuje zlepšenie efektivity práce. Na základe dlhoročnej manažérskej praxe, autorka ponúka konkrétne poznatky pri plánovaní času a ponúka odporúčania pre rozvoj líderských zručností. Výsledkom článku je inšpirácia k aplikácii iných spôsobov vedenia ľudí, ktoré budú prispôsobené aktuálnym potrebám akejkoľvek spoločnosti.*

Kľúčové slová:

manažér, líder, tvrdé a mäkké zručnosti, koučovací prístup, timemanažment

Abstract: *Leading people in this century requires new approaches, skills and adaptation to the constant development of human society. This article offers a different perspective on the possibilities of managing people. The article argues about the traditional management styles of the manager. The aim of the article is to point out the importance of the transition from the role of manager to the role of leader. The article compares different leadership styles and points out the positive impact of a coaching approach and open communication. An important part of the leader is also a different perspective on time planning (time management), which supports the improvement of work efficiency. Based on many years of managerial experience, the author offers concrete insights into time planning and offers recommendations for developing leadership skills. The result of the article is inspiration for the application of other ways of leading people, which will be adapted to the current needs of any company.*

Key words: *manager, leader, hard and soft skills, coaching approach, time management*

https://doi.org/10.52665/ser20240206

1. MANAŽÉR ALEBO LÍDER

Súčasný manažér ľudských zdrojov na akejkoľvek riadiacej úrovni, či majiteľ vlastnej firmy, v akomkoľvek odvetví, čelí pravidelne náročným situáciám. Očakáva sa od neho široký záber povinností. Zodpovednosť za plnenie cieľov, sledovanie trendov, aplikácia nových prístupov pri vedení ľudských zdrojov a každodenná operatíva.

Okrem plnenia stanovených KPI´s firmy a výkon je manažér zodpovedný aj za odborné vedenie ľudí. A práve odborné vedenie ľudí je stále otvorenou otázkou dnešnej doby. Existujú mnohé odporúčania, odborná literatúra, či štúdium samotného manažmentu ľudí. Starostlivosť o zamestnancov určuje aj Zákonník práce. Dynamické prostredie firiem a trhovej ekonomiky dnešnej doby ukazuje, že manažér po štúdiu, príde so širokým záberom znalostí a zručností (hard skills) pri vedení ľudských zdrojov. Alebo absolvuje základné školenia po nástupe na pozíciu, ktoré sú nevyhnutné k výkonu práce manažéra. Stále otvorenou otázkou ostáva, či stačí tento elementárny základ, alebo je potrebné aj ďalšie vzdelávanie.

Nováčik na pozícii manažéra sa zo začiatku spolieha na získané vedomosti. Prax prichádza postupne. Pri vedení ľudí sa v dnešnej dobe

očakáva, že v pozícii manažéra, je dôležitá už aj pozornosť venovaná osobnosti človeka. V minulosti boli rôzne štýly vedenia ľudí, ktoré sa vyvíjajú v dobe a idú ruka v ruke s vyspelosťou spoločnosti. Ak načrieme do nie tak dávnej histórie, tak pri vedení ľudí bolo akceptované aj porušovanie dnešných ľudských práv. Rôzne praktiky na pracovisku, či kričanie na svojich zamestnancov, bolo bežne tolerované a veľakrát dokonca uznávané. Našťastie v dnešnom modernom svete idú tieto praktiky do úzadia, no ešte stále je možné zažiť aj čisto direktívny štýl vedenia.

Neexistuje exaktná metrika, kto je vhodný a kto nie. Sú určité „vzory manažéra“ ale čo je ten manažérsky etalón?

V dnešnej dobre je nespočetne veľa metód na výber manažéra. Samotné zaučenie na vybranú pozíciu si vo finále určuje samotná firma.

Nové trendy v manažmente ľudí sú zo skúsenosti úplne iné. Pri vedení ľudí sa očakáva už aj určitá nadstavba. Základné znalostí sú dobrým odrazovým mostíkom, k zvládnutiu plnenia kritérií podľa pracovného zaradenia.

Nepísanou, ale dnes už bežne očakávanou nadstavbou manažéra pri výberových pohovoroch, je preukázané zvládnutie mäkkých zručnosti (soft skills). Najčastejšie vyžadované mäkké zručnosti manažéra sú emocionálna inteligencia (EQ), etický prístup, postoj lídra, otvorenosť zmenám, emočná sebaregulácia, postoj lídra. Úplným základom lídra je zvládnutie mäkkých zručností, kde radíme aj manažérsku komunikáciu. Výhodou už vyššej, zrelej líderskej komunikácie je aj zvládnutie a aplikácia koučovacieho prístupu.

Komunikácia. Elementárny pilier mäkkých zručností. Jej využívanie pomáha efektívnej spolupráci. Mnohí manažéri komunikáciu podceňujú a iní preceňujú. Nájsť optimum je už zručnosťou lídra. Kedy je potrebné viac hovoriť a kedy viac počúvať?

Neexistuje jednoznačné pravidlo, ktoré určuje, kto môže a kto nemôže obsadiť manažérsku pozíciu vo firmách. Bez ohľadu na vzdelanie, každý môže byť skôr, či neskôr dobrým manažérom. Stačí ak človek na pozícii manažéra zvládne stanovené úlohy, ktoré mu určí firma, alebo plní svoj plán vo vlastnej spoločnosti. Otvára sa tu otázka, či môže byť dobrý manažér súčasne aj dobrým lídrom. A čo sa očakáva od lídra?

Líder je človek, ktorý pri práci s ľudským zdrojmi, okrem vyššie spomínanej nadstavbe znalostí, zručností má minimálne tieto hodnotové návyky:

- otvorene komunikuje,
- preberá zodpovednosť,
- prizná si chybu a napraví ju,
- nerozkazuje, ale spolupracuje,
- prejaví uznanie aj lepším od seba,
- spolupracuje bez nadradenosti,
- podporuje rast spolupracovníkov,
- pracuje bez manipulačných techník,
- dodržiava svoje sľuby, či záväzky,
- využíva win-win pravidlo,
- kladie otvorené otázky so záujmom o človeka,
- pravidelne sa vzdeláva,
- pracuje so svojim egom,
- prejavuje integritu
- a ľudský prístup.

Dôležitým ukazovateľom dobrého lídra je zvládnutý timemanažment. Líder využíva efektívne svoj pracovný čas bez plytvania a hodnotne nastavený, v súlade s jeho pracovnou činnosťou. To isté aplikuje pri organizovaní času svojim spolupracovníkov a zamestnancov. Býva častým javom, že manažér (nie líder), považuje určovanie jeho stretnutí za dôležitejšie, ako pevne naplánovaná práca. Vyžaduje účasť na stretnutí, veď je šéf a neberie do úvahy termíny, alebo iné dôležité okolnosti pri práci zamestnanca. Toto „vlastníctvo“ cudzích kalendárov z pozície manažéra je u lídra nepravdepodobné. Overí si, či v požadovaný čas na stretnutie, nemrhá časom na dôležitejšiu činnosť, ktorá pomáha k plneniu cieľov. Nestavia zamestnancov do pozície, že on je viac.

Líder vie, že ak majú jeho zamestnanci plniť ciele, tak musí byť, nadnesene povedané, posledný v rade. Tu pomáha opäť zvládnutý timemanažment. Líder vie, že ak chce mať pravidelné stretnutia, tak ich je potrebné dostatočne vopred plánovať. Ak má zamestnanec informáciu o stretnutí vopred, tak sa vyhnú obaja presne tejto stresujúcej situácii. Polemike

zamestnanca, že koho uprednostniť v rovnakom čase bude irelevantná, pretože obaja majú vopred naplánovaný čas a vedia si inak naplánovať plnenie pracovných úloh,

Čas sa stáva v pracovnom prostredí veľmi vzácnou komoditou. Časom je meraná napríklad dĺžka pracovného času, pracovný výkon, či efektivita v čase. Čas je aj mzdový ukazovateľ, ktorý má v závislosti od expertízy zamestnanca rôznu hodnotu. Čas máme počas dňa všetci rovnaký, ale jeho plánovanie a využitie je rôzne.

Z tejto úvahy vyplýva, že súčasnosť priniesla až akútnu potrebu efektívne využívaného času. V práci i v súkromí. Na čas môžu byť rôzne pohľady. Niektoré moderné firmy okrem iného podporujú aj to, aby mal zamestnanec dostatok času i na oddych po práci. Výnimkou býva zavedenie krátkej pracovnej prestávky na oddych, nad rámec Zákonníka práce. Práve tieto inovatívne firmy prinášajú svoje poznatky, že aj krátka prestávka podporuje vyššiu efektivitu v práci.

Človek strávi v práci štandardných 8 hodín, ale výkon v čase nie je konštantný. Častým očakávaním vo firmách je využitie zamestnanca na 100% v pracovnom čase. Získané poznatky o človeku ukazujú, že človek nedokáže udržať rovnakú pozornosť, nasadenie a ani výkon dlhodobo. Zamestnanca vyrušujú v práci rôzne determinanty, ktoré spôsobujú rozdiely v dodržiavaní naplánovaného času.

Plánovanie a manažovanie času, tzv. timemanažment ukazuje, že tlakom na maximálny výkon v čase, prichádza k čoraz častejšie k rôznym chorobám ako je napríklad vyhorenie a pod.

“Čas je dobrý sluha, ale zlý pán”, je upravené slovenské príslovie a tvorí základ filozofie zavádzania láskavého timemanažmentu do pracovného prostredia v súlade s človekom.

Timemanažment môžeme preložiť do slovenčiny aj ako riadenie času. Riadenie času je však veľmi široký pojem. Otvárajú sa otázky na zodpovedanie, že je potrebné rozdeliť riadenie akého času, koho času, koľko času... Dlhodobo vnímame túto definíciu času len v súlade s pracovným časom. Avšak práve pod tlakom času, ľudia začínajú vnímať timemanažment, čiže riadenie času, aj vo svojom osobnom živote. Plánujú dovolenky, oslavy, šport, či voľný čas. Voľný čas. Kedysi bežná záležitosť. Dynamická doba a zvyšovanie nárokov na ľudí, priniesla veľmi časté slovné spojenia: „Nemám čas.“ alebo „Nestíham.“. Človek nie je stroj a nie je možné donekonečna a dlhodobo navyšovať výkon. V dôsledku tohto negatívneho trendu vznikla myšlienka, aby bola dostatočná efektivita práce, ale iným spôsobom. Eliminovať stres z časového tlaku, získať viac pokoja, vychutnať si prítomnosť a žiť vedome. Túto myšlienku má zakomponovaný láskavý timemanažment.

1.1 Láskavý timemanažment

Exkluzivita láskavého timemanažmentu je postavená na inom princípe akou je bežný trend – v čo najkratšom čase, zvládnuť čo najviac úloh. Berie do úvahy základné biologické potreby človeka, akceptuje kognitívne vlastnosti človeka, či jeho biorytmus. Uplatnením znalostí a zistení stále pribúdajúcich poznatkov, z neustáleho odborného poznávania človeka, alebo ľudského mozgu, je možné aplikovať oveľa efektívnejší timemanažment.

Základnou stavebnou jednotkou láskavého timemanažmentu je práca s hodnotou človeka (firmy, zamestnanca…) Určenie hodnôt je veľmi dôležitým aspektom. Na určenie vlastných hodnôt je potrebné vyčleniť dostatočný čas a následne využiť prioritizáciu zistených hodnôt.

Hodnota je významný prvok/proces, ktorej špecifickosť za zakladá na uvedomení, čo prináša zmysel a uspokojenie potrieb človeka. Hodnotou môže byť čokoľvek, čo človeku naplní jeho očakávania od života.

Pri určovaní hodnôt môže pomôcť zoznam v poradí podľa dôležitosti, ktoré si človek (firma) určí. Po spísaní hodnôt pomôže jednoduchá otázka na prioritizáciu a overenie, či je určená hodnota skutočne na správnom mieste hodnotového rebríčka. Pomôckou na verifikáciu je porovnanie každej hodnoty s každou. Pri porovnávaní jednotlivých hodnôt, pomôže kladenie jednoduchej otázky: “Ktorá hodnota pre mňa (pre firmu) viac znamená?”. Môže byť využité bodovanie, alebo iné možnosti prioritizácie.

Častým poznaním ľudí (firiem) je, že poradovník hodnôt sa časom môže zmeniť. Je dobré, ak na základe určených hodnôt ideme ruka v ruke s víziou, misiou, prioritami a cieľmi.

Zo získaných spätných väzieb, po aplikácií princípov láskavého timemanažmentu, sa začína ukazovať, že práve tento prístup prináša lepšie výsledky. Dokonca je tu pravdepodobnosť, že človek zvládne prirodzene a bez tlaku viac v tom istom čase. V porovnaní so súčasnou praxou, kde sa vyžaduje neustála optimalizácia času a pridávanie činností.

Bežnou rutinou je, že ľudia plnia len stanovené úlohy a len to, čo sa od nich očakáva v čase. Na prvý pohľad to môže vyzerať, že čo iné má zamestnanec robiť, keďže jeho povinnosťou je plniť úlohy od nadriadeného. Samozrejme. Vyplýva to aj zo Zákonníka práce. Ale plniť si úlohy tak, že sú ľudia absolútne pohrúžený do práce, lebo vedia, že je to v súlade s ich hodnotami, je významný rozdiel. V prístupe zamestnanca, ale aj vo výsledku, ktorý významne ovplyvňuje úspech firmy.

Práve princíp láskavého timemanažmentu je úlohou lídra. Otvorenou komunikáciu spoločne plánuje čas v súlade s cieľmi firmy. Súčasne berie na vedomie i charakter práce a osobnosť jednotlivca. Každý plán, i ten časový je vecou diskusie. Cieľom je nastavenie pracovného kalendára zamestnancovi tak, aby bral do úvahy všetky spomínané aspekty. Dlhodobé nadčasy, či tlak na zvyšovanie výkonu, v čo najkratšom čase je dlhodobo neudržateľný trend.

Je vhodné poukázať napríklad na mailovú komunikáciu. Očakáva sa, že „sa nejako“ prečíta a zvládne. Bežnou praxou vo firmách je, že spracovanie mailovej komunikácie sa očakáva popri ďalších úlohách, ktoré sú presne vypočítané na pracovný čas. Zamestnanci potom využívajú rôzne spôsoby ako zvládnuť emailovú záťaž. Na stretnutiach vidíte bežne ľudí ako nepočúvajú obsah schôdzky, ale ťukajú do mobilných telefónov alebo notebookov. Píšu počas obedných prestávok, či využívajú na to svoj súkromný čas, pretože mailová komunikácia je bežne v mobilných zariadeniach. Nové zmeny v Zákonníku práce už majú prvé náznaky ochrany zamestnanca, ale ešte stále je čo zlepšovať.

Je všeobecne známe, že čím viac ľudia pracujú, sú viac a viac unavení a výkon klesá viac a viac. Každý ďalší deň je z toho dôvodu efektivita práce nižšia a nižšia. Už Tomáš Baťa poukazoval na pravidlo 8-8-8. Osem hodín kvalitného spánku, osem hodín práce a osem hodín času na rozvoj, zábavu, či iné aktivity podľa hodnotového rebríčka jednotlivca. Už len táto zmena postoja k času prinesie rovnováhu a viac energie na každodenné pracovné povinnosti. Výsledkom sú menej unavení a viac angažovaní zamestnanci.

Určite prídu aj situácie, kde je potrebné niečo dokončiť a venovať sa danej činnosti dlhšie. Krátkodobé výnimky toto pravidlo akceptuje.

Veľmi častým javom býva, že manažéri venujú extrémne veľa času pracovníkom, ktorí neplnia svoje povinnosti. Pravidelne sa s nimi stretávajú, určujú im nové a nové ciele, kontrolujú kvalitu a včasnosť dodaných úloh. Pri zacielení len na tých menej angažovaných ľudí, manažér stráca čas. Pod vplyvom týchto okolností mu už ostáva minimum času na tých, čo majú výborné výsledky.

Lídri volia práve opačný postup. Ten, čo prinesie oveľa lepší výsledok. Venujú oveľa viac času tým dobrým a výnimočným zamestnancom. Vďaka takému prístupu sa tak tí menej tímoví hráči buď prispôsobia tempu kolektívu, alebo dobrovoľne uvoľnia miesto tým, čo chcú zdieľať kolektívne pracovné nasadenie. Čím viac času investujú do ľudí, tým lepšie výsledky budú prinášané.

Preto je základom láskavého timemanažmentu plán. Dobrý plán. Vytvorenie skutočne dobrého plánu je sumár poznatkov hodnôt, vízie, cirkadiánneho cyklu človeka, určenie najkvalitnejšieho času na prácu a stanovenie priority. Všetko v súlade.

1.2 Manažérska komunikácia

Slovo komunikácia sa vyvinulo z latinského slova communicatio, ktorého význam je robiť niečo spoločným, radiť sa, rokovať, zhovárať sa. Komunikáciu chápeme ako dorozumievanie, dorozumievací styk (Krátky slovník slovenského jazyka, 1977).

Pri vedení ľudí je neodmysliteľnou súčasťou otvorená komunikácia, ktorá vyplýva z pôvodu slova. Komunikácia, ktorá okrem zadávania pracovných úloh, či zdieľania informácií k výkonu práce. Je nevyhnutné overenie porozumenia pri odovzdávaní a prijímaní úloh. Otvorená komunikácia zahŕňa obojstranný tok informácií. Zhora dole a naopak.

Prekvapivé je, že existujú spoločnosti, ktoré komunikáciu považujú za stratu pri výkone práce.

Tento trend pri vedení ľudí je veľmi dôležité pomenovať a následne zmeniť. Poslanie úloh mailom, či informácií zamestnancom, nemôžeme považovať za komunikáciu. Mailová komunikácia je zradná, pretože v písomnom prevedení, môže medzi vysielateľom a prijímateľom dôjsť k rozdielnej interpretácii obsahu. Čo prináša negatívum, že zamestnanci si vysvetlia úlohu inak, alebo bežné konštatovanie nejakej situácie vnímajú ako kritiku.

Líder vie, že osobná komunikácia s jednotlivcom, alebo tímom je nevyhnutná. Ideálny stav je, ak ľudia vedia, že môžu osobne (online) byť so svojim šéfom vo vyhradenom čase a porozprávať vlastnými slovami, čo v danej chvíli riešia (v práci, či v súkromí). A tú istú možnosť má líder, ktorý pri zadávaní informácií môže okamžite overiť pochopenie.

Zdieľanie pracovných informácií je považované za formálnu komunikáciu. Ideálnym stavom môžeme nazvať, ak je formálna komunikácia doplnená aj o neformálnu komunikáciu. Neformálna komunikácia nie je vo firmách často uznávaná, no napriek tomu je nevyhnutná pri vedení ľudí. Neformálna komunikácia je síce pre výkon práce ťažko merateľná, ale keďže sme ľudia a nie stroje, je nevyhnutná. Líder, ktorý vďaka svojej emočnej inteligencie dokáže identifikovať nutnosť takej komunikácie je veľmi uznávaným v očiach zamestnancov.

Ľudia prichádzajú do práce s rôznymi postojmi, zdravotným stavom, pod tlakom starostí z domáceho prostredia, či zažili iné situácie, ktoré prináša život. A tak vďaka otvorenej komunikácii môže byť líder v týchto situáciách ako prvý bod styčný bod, ktorý pomôže odvrátiť dlhodobé zníženie pracovného výkonu, či podať pomocnú ruku. Otvorená komunikácia je s úprimným záujmom. Pomáha budovať dôveru medzi a udržiavať motiváciu zamestnancov, pretože vedia, že sa môžu na svojho lídra kedykoľvek obrátiť.

Určiť koľko má trvať, či akom má vyzerať je možné asi len v prípadových štúdiách. Každý človek je iný a preto aj komunikácia s každým jedincom bude prebiehať inak. Samozrejme, môžeme sa odrážať od základných psychologických poznatkov, ako je rozdelenie typov ľudí. Existujú mnohé manažérske školenia komunikácie, ktoré sa odrážajú zo psychológie. Častým javom vo firmách je využívanie analytických prieskumov osobností (napr. farebná typológia, či iné možnosti). Tieto analýzy môžu pomôcť pri vzájomnej komunikácii, pochopenia druhej strany. Na to, aby sme sa vzájomne rešpektovali už nestačia len analýzy, ale je potrebný individuálny prístup k človeku a postoj lídra, ktorý hľadá adekvátne spôsoby komunikácie.

Komunikácia je nevyhnutná, ak chce firma prosperovať a mať dlhodobo motivovaných zamestnancov.

Starostlivosť o zamestnancov určuje aj Zákonník práce. Zákon, ale nemá zakomponovanú nutnosť komunikácie. A pritom je to skutočne odrazový mostík vo všetkých smeroch, a nie len v práci, i vo všetkých odvetviach. Otvorená komunikácia je základným princípom starostlivosti. Ľudský prístup, záujem, akceptácia „ľudských slabostí“, či budujúca dôvera medzi lídrom a zamestnancom môže byť veľmi dobre podporená aj koučovaním prístupom.

1.3 Koučovací prístup

Koučovací prístup vychádza z poznatkov koučing. Koučing je už veľmi často skloňované slovo, ale jeho aplikácia v slovníku je často zavádzajúca. Koučing využíva otvorené otázky, bez manipulácie, s úprimným záujmom o človeka. V koučingu kouč verí, že človek je sám expert na danú situáciu. Podporuje uvedomenie koučovaného smerom k cieľu.

Kouč neradí, nepomáha, nepodsúva svoje myšlienky. Kouč nezadáva cieľ a ani tému rozhovoru. Kouč používa otvorené otázky vďaka širokej palete koučovacích nástrojov, ktoré naštartujú zmenu postoja a myslenie človeka. Opiera sa o aktívne počúvanie počas rozhovoru a napájanie na počuté. V koučingu je sledovaný cieľ koučovaného a nie kouča. Dobrý kouč viac počúva ako rozpráva.

Koučovací prístup v praxi je aplikácia zručností s koučingu do manažérskeho prostredia. Manažér môže využívať prvky koučingu, no stále má pod kontrolou plány, či stanovené pracovné ciele. Rozdielom je, že nemusí určovať čo, kde a ako má zamestnanec robiť, aby sa splnil stanovený cieľ. Výhodou koučovacieho

prístupu je, že zamestnanec hľadá cesty a spôsoby sám. Otvára sa tu nová možnosť angažovanosti ľudí k plneniu cieľov. Zamestnanci prichádzajú s kreatívnymi nápadmi. V porovnaní s direktívnou formou riadenia, kde nové nápady, či myšlienky, nemajú vôbec priestor na vznik, či aplikáciu do praxe.

Koučovací prístup môže byť využitý kdekoľvek v pracovnom prostredí. Veľmi často býva výbornou pomôckou pri poradách, osobných pohovoroch alebo v bežnom pracovnom prostredí. Tento prístup pomáha zacieliť rozhovor na cieľ a manažér dokáže využiť maximálny potenciál človeka.

Manažér využívajúci koučovací prístup pri vedení ľudí, pomáha aj k budovaniu firemnej kultúry založenej na rešpekte, dôvere a podporujúcej produktivitu. Firmy, ktoré aplikovali koučovaciu kultúru majú v dlhodobejšom horizonte oveľa viac zainteresovaných pracovníkov. Pracovníci preukazujú viac ochoty pri plnení cieľov, pretože je tam vybudovaná dôvera v ich odbornosť. Koučovací prístup je postavený na dôvere zamestnancov. Zamestnanci preberajú zodpovednosť a samostatne hľadajú spôsoby a cesty k plneniu úloh.

2. TRENDOVÝ LÍDERSHIP V 21. ST.

Maximalizácia výkonu a tlak na výkon spôsobuje, že sa veľmi často, napriek poznatkom opomína práve komunikácia ako základ zdravého tímu, či firmy. Manažéri a majitelia firiem považujú komunikáciu za plytvanie času. A práve správna komunikácia pomáha v rozvoji firmy, vytvára podporné prostredie.

Prax v v 21. storočí ukazuje, že najmenej účinná je direktívna forma riadenia, žiaľ, stále veľmi často aplikujúca v mnohých odvetviach, či súkromných firmách. Častým javom je len základná starostlivosť o zamestnanca, ktorá plní literu zákona. Zákonník práce síce široko popisuje elementárne povinnosti a zodpovednosti zamestnávateľa a riadiaceho pracovníka, ale neobsahuje už presah a aplikáciu do praxe. A práve tam vznikajú rôzne nesprávne formy vedenia ľudí.

Stále častým javom je, že aj keď je určená pracovná náplň, vhodné pracovné podmienky spĺňajú stanovené kritéria, tak to nezaručuje, že forma vedenia ľudí bude správne aplikovaná. Môžeme to porovnať s výchovou detí. Sú rôzne odporúčania, ale neexistuje exaktný návod. A aj napriek mnohým usmerneniam, vznikajú na pracovisku situácie, kde zasahuje ľudský faktor. Chýbajúca tolerancia, akceptácia jedinca ako jedinečnej a originálnej bytosti. Stále očakávajúce radenie ľudí do štruktúr, tabuliek, foriem.... Otvorenými otázkami ostávajú nekonečné možnosti, ako definovať lídra a ako tieto poznatky aplikovať správne do praxe tak, aby bola možná aj opakovateľnosť dobrých lídrov.

Samozrejme, že je potrebné mať pravidlá a dodržiavať procesy, štandardy a smernice. Ale toto všetko nesmie prekračovať mieru človečiny. Ľudský a individuálny prístup je to, čo nevyhnutne táto spoločnosť potrebuje v mnohých firmách. Práve správanie človeka k človeku, alebo nadriadeného k podriadenému je to, čo sa veľmi ťažko určuje do tabuliek, či právnych úprav.

Mnohí manažéri neovládajú podávanie spätnej väzby, spoločné vytvorenie spôsobu plnenia cieľa, či zdieľanie informácií tak, aby si overili pochopenie. Chýba práca s emóciami, pretože aj tie sú súčasťou človeka a po prekročení prahu práce ich nenecháva pred bránou firmy.

Nedostatok znalostí formy manažérskej komunikácie a mnohé iné chýbajúce elementy, ktoré nepokrýva Zákonník práce, spôsobuje, že dochádza k rôznym formám nesprávneho vedenia ľudí. Možno by bolo dobré povedať, že je to len technické vedenie ľudí, ale chýba tam tá ľudská zložka lídra. Človečina.

3. AKO NA ČLOVEČINU V LEADERSHIPE?

Výber lídra na vedenie ľudí, či vznik lídra v súkromnom podnikaní, má spoločného menovateľa. Celoživotné vzdelávanie.

Sledovanie úspešných lídrov, ktorí majú za sebou mnohých spokojných zamestnancov. Neustále porovnávanie sa s lepšími. Pravidelné overovanie si, či forma vedenia ľudí je akceptujúca aj priamo tam, kde je aplikovaná. Byť otvorený zmenám, pristupovať ku kritike

s otvorenou mysľou a hlavne mať na zreteli, že pracujeme s ľuďmi a nie strojmi. Naučiť sa pracovať s emóciami pri vedení ľudí tak, aby boli hľadané všetky možné riešenia i v tak nepredvídateľných situáciách.

Vedenie ľudí má veľmi citlivý základ. Človeka. A človek je tvor jedinečný. Preto pristupujme k človeku tak, aby sme neplytvali jeho potenciálom, ale podporovali to jedinečné v ňom. A toto všetko je úlohou lídra. Byť tam pre ľudí, pripraviť ľuďom priaznivé pracovné prostredie. Overovať, či majú zamestnanci všetko potrebné pre výkon ich práce a plnenie cieľov. Komunikovať vždy, keď je to potrebné. Hľadať cesty ako zamestnancom pomáhať a byť oporou. Bez povyšovania, či presadzovania. Líder vie, že aj jeho zamestnanci môžu byť šikovnejší v určitých oblastiach a plne rešpektuje ich jedinečnosť. Líder vie, že ľudia sú tým najdôležitejším zdrojom a preto sú vždy na prvom mieste.

Líder aplikuje princíp, ktorý odporúča Simon Sinek vo svojej knihe s identickým názvom: Lídri jedia poslední.

REFERENCES

Ján Kačala, Mária Pisárčiková (1997). Krátky slovník slovenského jazyka.
Gabriela Končitíková (2022). Inspirace Baťa.
Jim Collins (2008). Jak z dobré firmy udělat skvělou.
Peter Szabó, Daniel Meier (2010). Koučovanie krátko, jednoducho, účinne.
John Whitmore (2009). Koučovaní.
Kolektív autorov (2004). Synonymický slovník slovenčiny.
Simon Sinek (2015). Lídři jedí poslední.

Contact:

Mgr. Ingrid Nová Almáši
majiteľka spoločnosti
VIRTUÁLNA ŠÉFKA s.r.o.
Dobšinského 1, Žilina
ZAKO - žilinskí kouči
(členka spoločnosti)
mail: ingrid.nova.almasi@gmail.com

SUMMARY

Successful leadership of people in the 21st century requires new approaches that are built on communication and coaching and effective time management. Priorities in time management are based on values, vision, mission and with regard to the person himself. It takes into account all the circumstances that can determine the endless pressure on a person. It shows that man is not a machine and therefore it is not possible to increase performance indefinitely, in the shortest possible time. Due to the application of a different approach to time management, there is less pressure on people. It produces better results at the same time compared to the constant pressure on a person to handle more and more.

An important point is the leader's open communication. In addition to formal communication, the leader knows that it is necessary to communicate informally as well. People have their emotions, problems, changes in health, which significantly affects work performance. It is in this case that informal communication is appropriate, which can help to avert various negative impacts on work.

The leader is the first point of contact for the employee. His important role is to listen to his employees and put his full trust and acceptance of the solutions brought. A great benefit of active listening, when applying a coaching approach, is also the benefit of innovative solutions on the part of employees. This environment of trust and cooperation makes employees feel that everyone is an asset and an important part of the team.

Another positive impact thanks to active listening is creative and innovative solutions from employees. This environment of trust and cooperation makes employees feel that everyone is an asset and an important part of the team. The implementation of these leadership principles can significantly contribute to better results with a longer duration. At the same time, they create a working environment that is in line with modern trends in the field of people management.

SIEŤOVANIE A PREPÁJANIE AKTÉROV V SYSTÉME QUADRUPLE HELIX V REGIÓNOCH GEMER-MALOHONT A NOVOHRAD

NETWORKING AND INTERCONNECTION OF ACTORS IN THE QUADRUPLE HELIX SYSTEM IN THE REGIONS OF GEMER-MALOHONT AND NOVOHRAD

Marian BAKITA, Ján PLESNÍK, Zuzana BAKITOVÁ

Abstrakt: *Systém Quadruple Helix (QH) predstavuje moderný prístup k rozvoju inovačných ekosystémov, kde spolupracujú štyri hlavné zložky: akademická sféra, podnikateľský sektor, verejná správa a občianska spoločnosť. Tento model vytvára priestor na synergické prepájanie zdrojov, know-how a infraštruktúr, čo umožňuje efektívnejšie riešenie regionálnych potrieb a výziev. Jedným z praktických príkladov implementácie QH je REGIONÁLNY PRIEMYSELNÝ INOVAČNÝ KLASTER RIMAVSKÁ KOTLINA (REPRIK), ktorý sa zameriava na podporu duálneho vzdelávania a prepájanie miestnych firiem so vzdelávacími inštitúciami. Táto synergia medzi sektormi je nevyhnutná pre rozvoj inovácií a regionálnej konkurencieschopnosti.*

Kľúčové slová: *quadruple helix, inovácie, obehové hospodárstvo, regionálne centrum obehového hospodárstva, klaster, vzdelávanie, spolupráca.*

Abstract: *The Quadruple Helix (QH) system represents a modern approach to the development of innovation ecosystems, where four main components work together: academia, the business sector, public administration and civil society. This model creates space for synergistic interconnection of resources, know-how and infrastructures, which allows for a more effective solution to regional needs and challenges. One of the practical examples of QH implementation is the Regional Industrial Innovation Cluster Rimavská kotlina (REPRIK), which focuses on supporting dual education and connecting local companies with educational institutions. This synergies between sectors are essential for the development of innovation and regional competitiveness.*

Key words: *quadruple helix, innovation, circular economy, regional hub for circular economy, cluster, education, cooperation.*

https://doi.org/10.52665/ser20240207

1. Klaster v Quadruple Helix

Klaster REPRIK – záujmové združenie právnických osôb, ktoré združuje subjekty z viacerých sektorov pomáha tvoriť základy Regionálnych centier obehovej ekonomiky (RCOH) v najmenej rozvinutých regiónoch ako sú regióny GEMER-MALOHONT A NOVOHRAD modelom QH. Tento model umožňuje lepšiu integráciu sociálnych, ekonomických a environmentálnych dimenzií do inovačných procesov. Klastrová organizácia vďaka aktívnosti jednotlivých členov vie využiť potenciál sieťovania. Klaster slúži ako platforma pre spoluprácu a výmenu vedomostí medzi školami duálneho vzdelávania, miestnymi firmami a ďalšími aktérmi. Využíva podnikateľské subjekty, ktoré sú už v regióne dlhodobo etablované, čím sa znižuje riziko prerušenia kontinuity. V kontexte týchto regiónov je implementácia tohto modelu kritická pre udržateľný rozvoj a sociálnu inklúziu.

1.1. Ciele spolupráce

Jedným z hlavných cieľov spolupráce v rámci klastra REPRIK je vytvoriť funkčnú platformu na prepájanie škôl poskytujúcich duálne vzdelávanie a prax s miestnymi podnikmi ako aj samosprávami. Tento prístup podporuje:

- Zvýšenie kvality vzdelávania prostredníctvom reálnych praktických skúseností žiakov.
- Zvýšenie zamestnateľnosti absolventov prispôsobením ich zručností požiadavkám trhu práce.

- Posilnenie regionálneho hospodárskeho rozvoja prostredníctvom spolupráce medzi vzdelávaním a praxou.

V rámci dostupnosti sa klastrová organizácia zameriava na školy v okresných mestách Rimavská Sobota, Lučenec, Poltár, čo umožňuje žiakom škôl bez nadmerného zvyšovania nákladov na dopravu a využiť možnosti priamo z regiónu.

1.2 Prístupy k sieťovaniu a prepájaniu aktérov

Identifikácia potrieb a možností:

Výskum regionálneho trhu práce na určenie najžiadanejších profesií.

Mapovanie kapacít vzdelávacích inštitúcií a možností miestnych podnikov.

Vytváranie partnerstiev:

Uzatváranie zmlúv medzi školami a firmami na základe obojstranného prospechu.

Organizovanie pravidelných stretnutí na zdieľaní informácií a budovaní vzájomnej dôvery.

Duálne vzdelávanie:

Realizácia školských programov, ktoré kombinujú teoretické vzdelávanie s praktickým tréningom vo firmách.

Zavádzanie mentoringového systému, kde zamestnanci firiem poskytujú študentom odborné vedenie.

Technologické platformy:

Využívanie digitálnych nástrojov na prepojenie študentov, škôl a zamestnávateľov (napr. portály pre ponuku a dopyt po stážach).

Propagácia a osveta:

Organizovanie podujatí, ako sú dni otvorených dverí v podnikoch, kariérne dni a workshopy.

Zapojenie verejnosti prostredníctvom miestnych médií a sociálnych sietí.

2. PRÍNOSY PRE JEDNOTLIVÝCH AKTÉROV

Spolupráca v rámci quadruple helix modelu prináša viacero výhod, ako sú rýchlejšia adaptácia na trhové zmeny, lepšie využitie zdrojov a zvýšenie regionálnej inovačnej kapacity. Avšak, existujú aj výzvy, ako sú koordinácia medzi rôznymi aktérmi, zabezpečenie dlhodobej udržateľnosti spolupráce a riešenie sociálnych a environmentálnych otázok.

Pre školy:

Možnosť prispôsobiť študijné programy reálnym potrebám trhu práce.

Zvýšenie atraktívnosti duálneho, praktického vzdelávania pre nových študentov.

Zlepšenie technického vybavenia školy čo umožní znižovať náklady škole.

Flexibilné kurikulum nakoľko vzdelávacie programy sú prispôsobené aktuálnym potrebám trhu práce.

Mentoring, ktorý zabezpečujú zamestnanci firiem poskytujúci študentom odborné rady, podporu a vedenie k zodpovednosti za vykonané činnosti.

Pre študentov:

Získanie praktických zručností a pracovnej skúsenosti už počas štúdia.

Budovanie si profesionálnych kontaktov, ktoré môžu byť užitočné pri uplatnení v praxi alebo zahájenie samo zamestnania.

Zvýšenie konkurencieschopnosti na trhu práce.

Možnosť tvoriť a podieľať sa na budovaní firemnej kultúry a etických kódexoch.

Sledovanie „živého“ rýchlo sa meniace systému, konkurencie, produktov, služieb a legislatívy.

Finančné ohodnotenie a iné benefity, ktoré podporujú ich motiváciu a výkon.

Pre firmy:

Prístup k mladej talentovanej pracovnej sile, ktorá je už oboznámená s procesmi vo firme a tým získanie potencionálneho zamestnanca, ktorý má už firemnú kultúru.

Využiť pohľad k etickému kódexu, firemnej kultúre a imidžu firmy.

Zvýšiť povedomie o firme u mladej generácie.

Využiť nové IT technológie a software s ktorým pracuje mladá generácia.

Pre región:

Prístup k mladej talentovanej pracovnej sile, ktorá je už oboznámená s procesmi vo firme.

2.1 Výzvy a možnosti na zlepšenie

Napriek pozitívnym výsledkom existujú výzvy, ktoré si vyžadujú pozornosť:

Nedostatok financií: Potreba získať dodatočné zdroje na podporu duálneho vzdelávania a technologického vybavenia predovšetkým pre školy.

Koordinácia aktérov: Zabezpečiť efektívnu komunikáciu medzi školami, firmami a samosprávou.

Zapojenie verejnosti: Zvýšenie povedomia o významnosti duálneho vzdelávania a vykonávania praxe priamo u aktérov v regióne ako sú podnikateľské subjekty a samospráva.

Zlepšiť povedomie, že výchova mladého človeka v zamestnaní nemusí v prvom rade znamenať možnosť konkurencie, ale naopak možnosť získať kvalitného zamestnanca alebo partnera do firmy.

3. ZÁVERY A ODPORÚČANIA

Vzdelávanie je základnou súčasťou RCOH, a je multisektorové. Quadruple helix model poskytuje robustný rámec pre podporu inovácií a regionálneho rozvoja. REPRIK pri tvorbe RCOH kladie dôraz nie na prepájanie technológie, ľudských kapacít a know-how. Mnohé regióny po celom svete úspešne implementovali regionálne centrá obehového hospodárstva RCHE (Regionálne huby cirkulárnej ekonomiky tzv.. Napríklad regióny ako Barcelona v Španielsku a Amsterdam v Holandsku zaviedli komplexné programy na podporu recyklácie a udržateľnosti, ktoré priniesli významné ekonomické, environmentálne a sociálne výhody.

REGIONÁLNY PRIEMYSELNÝ INOVAČNÝ KLASTER RIMAVSKÁ KOTLINA (REPRIK) predstavuje kľúčovú iniciatívu pre implementáciu modelu Quadruple Helix v praxi. Prostredníctvom spolupráce škôl, firiem, samosprávy a občianskej spoločnosti môže tento model vytvárať príležitosti pre rozvoj duálneho alebo praktického vzdelávania, čo sa v priebehu času prejaví v zlepšení regionálnej zamestnanosti a posilnení ekonomiky v regiónoch.

REFERENCES

PLESNÍK.J., PLESNÍK.M., Obehové hospodárstvo v regionálnej samospráve Regionálne centrum obehového hospodárstva, Recenzovaný zborník z medzinárodnej vedeckej konferencie MMK 2021, Masarykova medzinárodná konferencia pre doktorandov a mladých vedeckých pracovníkov 2021, ISBN: 978-80-87952-35-1,

PLESNÍK.M., Práca a zamestnanosť v obehovom hospodárstve, Zborník prezentácií úspešných inovácií ECO & ENERGY Innovation, Košice, 2020. Vydal: NEK, Bratislava. ISBN: 978-80-972637-0-6

BAKITA.M., PLESNÍK.J., THE CREATION OF REGIONAL CIRCULAR ECONOMY CENTRES OF THE QUINTUPLE HELIX APPROACH, CER Comparative European Research 2022, Research track of the 18th Biannual CER Comparative European Research Conference, ISBN 978-1-7399378-3-6

BAKITA.M., PLESNÍK.J., AKTIVITY KLASTROVEJ ORGANIZÁCIE REPRIK V REGIÓNE GEMER-MALOHONT, ENERGOFUTURA 2022, Zápisník príspevkov a prezentácií, Vydal: NEK, Bratislava, ISBN 978-80-973571-5-3

Uznesenie Európskeho parlamentu z 15. júna 2017 o Európskej agende pre kolaboratívne hospodárstvo (2017/2003(INI)),

https://www.europarl.europa.eu/doceo/document/A-8-2017-0195_SK.html

Contact:

Ing., Marian Bakita, MBA
REGIONÁLNY PRIEMYSELNÝ INOVAČNÝ KLASTER RIMAVSKÁ KOTLINA REPRIK
Železničná 2, 987 01 Poltár, e-mail: inforeprik@gmail.com

Ing. Ján Plesník
Národná recyklačná agentúra Slovensko NARA-SK
Andreja Hlinku 2568/33
960 01 Zvolen, Slovensko, e-mail: naraslovensko@gmail.com

Ing. Zuzana Bakitová
CENTRUM PRVÉHO KONTAKTU PRE PODNIKATEĽOV V POLTÁRI - REGIONÁLNA ROZVOJOVÁ AGENTÚRA
Železničná 2, 987 01 Poltár, e-mail: zuzana.smatlikova@cpokpoltar.sk

The REPRIK cluster is created by the RCOH Circular Economy Centers and forms a platform for cooperation within the Quadruple Helix (QH) model. This model integrates social, economic and environmental aspects in order to support innovation in the least developed regions of Slovakia, such as Gemer-Malohont and Novohrad. By connecting schools, businesses, local governments and civil society to sustainable regional development.

SUMMARY

Objectives and approaches of the REPRIK cluster
The main goal of the cluster is to connect schools providing dual, practical education with local businesses and local government. This model allows students to gain practical skills and work experience during their studies, increasing their employability and competitiveness in the labour market. The cluster supports school programs adapted to the current needs of the labor market, and participates in its creation. As part of the cooperation, it uses the background of established partners – actors in the region.

Key approaches include:
Identification of labour market needs and opportunities of local businesses.
Building partnerships between schools and companies on the basis of mutual benefit.

Benefits of the QH model for actors
For schools: The model improves the quality of education, curriculum flexibility and technical equipment. Students gain practical experience and the opportunity to work with experienced mentors.
For students: Dual education allows you to build work contacts, acquire practical skills and prepare for the real labor market. It also includes benefits such as financial rewards or professional guidance.
For businesses: Businesses gain access to a young, skilled workforce familiar with business processes. At the same time, they are building awareness among the younger generation and have the opportunity to integrate new IT technologies.
For the region: The model promotes regional development and innovation, which contributes to improving employment and economic stability.

Challenges and recommendations
The main challenges are the lack of funding to support schools and dual education, the need for effective coordination between actors and raising awareness of the benefits of the QH model. It is recommended to improve communication and secure additional sources of funding to increase the sustainability of cooperation. Within the framework of cooperation, one entity may cover the administration associated with the practice and another entity may provide the workplace of the practice.

Conclusion
The REPRIK cluster is an effective example of the implementation of the Quadruple Helix model in Slovakia. Its activities support innovation, dual education and regional development, drawing inspiration from successful programs abroad. The QH model is proving to be a promising tool for addressing economic, social and environmental challenges in the least developed regions.

The REPRIK cluster is created by the RCOH Circular Economy Centers and forms a platform for cooperation within the Quadruple Helix (QH) model. This model integrates social, economic and environmental aspects in order to support innovation in the least developed regions of Slovakia, such as Gemer-Malohont and Novohrad. Through the linking of schools.

TRENDY V OBLASTI DIGITALIZÁCIE MALÝCH A STREDNÝCH PODNIKOV SO ZAMERANÍM NA E-SHOPY

TRENDS IN DIGITALIZATION IN SMALL AND MEDIUM-SIZED ENTERPRISES WITH A FOCUS ON E-SHOPS

Zuzana DINKOVÁ GAŠPAROVIČOVÁ

Abstrakt: *Digitalizácia a automatizácia prispievajú k zvýšeniu efektivity a produktivity ľudských zdrojov a konkurencieschopnosti malých a stredných podnikov (MSP). Úspech digitalizácie závisí od digitálnych zručností zamestnancov a od schopnosti podnikov implementovať digitálne technológie do praxe. Vďaka digitálnym technológiám vedia firmy a zamestnanci automatizovať procesy, efektívne plánovať, riadiť, kontrolovať, analyzovať a pristupovať rýchlo k údajom a informáciám v reálnom čase. Digitálna transformácia na druhej strane prináša riziká v podobe kybernetických hrozieb s cieľom odcudziť dáta, heslá a narušiť bezpečnosť spoločností. Veľmi dôležitým sa stáva systematické a efektívne vzdelávanie zamestnancov, ktoré zaručuje plynulý prechod MSP k digitálnej transformácii a automatizácii a zvyšovaniu kybernetickej bezpečnosti .*

Kľúčové slová: *malé a stredné podniky (MSP), digitálna transformácia, problémy a priority, kybernetická bezpečnosť*

Abstract: *Digitalization and automation contribute to increasing the efficiency and productivity of human resources and the competitiveness of small and medium-sized enterprises (SMEs). The success of digitalization depends on the digital skills of employees and on the ability of companies to implement digital technologies in practice. Thanks to digital technologies, companies and employees can automate processes, effectively plan, manage, control, analyze and quickly access data and information in real time. On the other hand, digital transformation brings risks in the form of cyber threats aimed at stealing data, passwords and violating company security. Systematic and effective employee training is becoming very important, which guarantees a smooth transition of SMEs to digital transformation and automation and increasing cybersecurity.*

Key words: *small and medium-sized enterprises (SMEs), digital transformation, problems and priorities, cybersecurity*

https://doi.org/10.52665/ser20240208

1. DIGITÁLNA TRANSFORMÁCIA

Digitalizácia a automatizácia procesov sa stáva každodennou súčasťou jednotlivca a spoločnosti, zamestnanca a zamestnávateľa, ako na internej úrovni, tak aj v prepojení s vonkajším prostredím: s rôznymi inštitúciami, štátnou správou, odberateľmi či dodávateľmi.

Technológie na jednej strane prispievajú k zvyšovaniu efektivity a produktivity ľudských zdrojov a konkurencieschopnosti podniku, na druhej strane prinášajú aj množstvo problémov, ktoré treba riešiť, reflektovať na ne a odstraňovať ich, pričom najvyššou prioritou bude zvyšovanie ochrany dát a kybernetickej bezpečnosti spoločností a podnikov.

Malé a stredné podniky (MSP) sa veľmi často stretávajú s nadbytočnou byrokraciou, reguláciami, zvýšenými investíciami a nedostatočnou finančnou podporou, ktoré môžu viesť k slabej a pomalej digitalizácii a automatizácii procesov a výroby.

2. PROBLÉMY A PRIORITY

Malé a stredné podniky musia v súvislosti s implementovaním digitálnych technológií čeliť

rôznym problémom, ktoré spomalujú digitalizáciu a automatizáciu.

Spoločnosti musia napríklad niekoľkokrát žiadať a predkladať tie isté dokumenty, potvrdenia a výpisy, pričom to stojí podniky nielen čas, ale aj peniaze. Regulácie znižujú motiváciu podnikov zavádzať inovácie a implementovať digitálne technológie. Legálny rámec a implemetovanie si často vyžadujú zvýšené investície do hardvérového a softvérového vybavenia, ako sú servery, dátové úložiská, výpočtová technika, programi, moduly, licencie a ich neustále aktualizácie, vývoj špecifických softvérových požiadaviek podniku, ale aj IT špecialistov, zabezpečenia IT infraštruktúry, jej správy, údržby a vývoja, zálohovania, či potreby nových zamestnancov a pracovníkov, na ktoré musia malé a stredné podniky vynaložiť čas a prostriedky, ktoré často nemajú k dispozícii a finančná podpora v tejto oblasti je nedostatočná.

Malé a stredné podniky v dnešnej dobe spracovávajú a presúvajú veľké množstvo informácií a ich manuálne spracovávanie môže viesť k vyššej chybovosti či nižšej produktivite práce. Na jednej strane spoločnosti môžu disponovať zastaraným softvérom či hardvérom, čo môže mať vplyv na bezpečnosť a produktivitu, nekompatibilitu s novšími systémami či limitujúcu spoluprácu. Na druhej strane spoločnosti zápasia s nízkou úrovňou digitálnych zručností zamestnancov, čiže je potrebné investovať nielen do technológií, ale aj do zručností zamestnancov.

Prioritou každého podniku by mala byť digitálna transformácia a automatizácia, ktoré prinášajú optimalizovanie procesov a zvyšovanie výkonnosti. Nové pracovné nástroje, metódy a technológie zvyšujú efektívnosť a konkurencieschopnosť. Zlepšovanie práce s dátami a cloudom umožňuje efektívne spracovávanie a analýzu obrovského množstva dát, informácií, vstupov, ich prenos a ukladanie, eliminujú sa zdĺhavé úlohy, koordinovanie, kolaborácia a zdieľanie na jednotlivých úrovniach podniku.

V neposlednom rade však musia podniky a spoločnosti dbať na zvýšenú ochranu dát, a tým pádom neustále zvyšovať kybernetickú bezpečnosť investovaním do softvérov a ich aktualizácií, rôznych licencií, IT špecialistov a systematického vzdelávania zamestnancov, ako aj dodržiavať a implementovať regulácie a zákony, čo môže spomalovať digitálnu transformáciu.

3. DIGITALIZÁCIA MSP V PRAXI

Digitalizácia a automatizácia umožňujú malým a stredným podnikom nahrádzať rutinnú prácu, znižovať chybovosť, zyšovať produktivitu práce a stávať sa konkurencieschopnejšími.

Malé a stredné podniky môžu využiť širokú škálu softvérov, aplikácií, analytických a komunikačných nástrojov, modulov a technológií, vďaka ktorým automatizujú procesy, spracúvajú a analyzujú množstvo dát, digitalizujú, pristupujú k informáciám, kontolujú či komunikujú v reálnom čase, eliminujú mnohé zdĺhavé úlohy a časovo náročné koordinačné stretnutia a majú tým pádom lepšiu kontrolu rôznych verzií a dokumentov, šetria čas a v neposlednom rade aj náklady. Treba však spolupracovať s overenými spoločnosťami, ktoré dané softvérové produkty ponúkajú, dbať na ich pravidelné aktualizácie, investovať do hardvérového vybavenia, investovať do školení a tréningov zamestnancov, s cieľom predchádzať kybernetickým útokom. Prioritou MSP je dbať na ochranu dát a informácií a minimalizovať a eliminovať hrozby a riziká zvnútra aj zvonku firmy.

3.1 Technológie, ktoré prispievajú k zvýšeniu efektivity a produktivity ľudských zdrojov a konkurencieschopnosti MSP

Existuje množstvo ERP (Enterprise Recource Planning) ekonomických softvérových systémov, vďaka ktorým sú malé a stredné podniky schopné lepšie plánovať podnikové zdroje. Tieto systémy umožňujú spoločnostiam efektívne riadiť a manažovať všetky procesy a operácie ako je účtovníctvo, zásobovanie, výroba, financie a iné. Tieto výkonné informačné systémy pomáhajú firmám s automatizáciou procesov, poskytujú množstvo manažérskych nástrojov na riadenie celej firmy, zásob, výroby, rýchle manažovanie obchodných ponúk či kontaktov.

Veľmi populárne práve pre malé a stredné podniky sa stávajú cloudové informačné systémy, ktoré sú online kedykoľvek a odkiaľkolvek a sú určené pre rôzne operačné systémy a zariadenia (mobilné telefóny, tablety, notebooky či desktopové počítače). Väčšinou poskytujú desktopové aj webové rozhranie, pričom v desktopovej aplikácii sú k dispozícii všetky funkcie a táto slúži na plnohodnotnú každodennú prácu. Webové rozhranie poskytuje rýchly pohľad na dáta odkiaľkoľvek aj z mobilu, čo je výhodné pri práci v teréne, na stretnutiach, v externom sklade, či pre obchodných zástupcov. Všetky dôležité informácie sú v jednotnom systéme a reálnom čase. Vďaka API (Application Programming Interface, aplikačné programové rozhranie) je možnosť jednoduchého prepojenia s ďalšími aplikáciami (prepojenie s bankami, doručovacími a kuriérskymi službami, e-shopami, skladovým hospodárstvom). Výhodou je jednoduchá rýchlosť a inštalácia celého systému, efektivita, flexibilita, zálohovanie a bezpečnosť, ako aj dostupné cenové riešenia pre malé a stredné podniky bez nutnosti vlastného IT oddelenia. Firmám tak odpadajú náklady a práce spojené s obstaraním a správou vlastných serverov, IT profesionálov, servisom, aktualizáciami a zabezpečením dát. ERP systémy poskytujú prenájom komplexného riešenia. Technologické spoločnosti pomocou vývoja a stálych aktualizácií reflektujú na zmeny zákonov a nariadení, riešia zabezpečenia celého systému, poskytujú rôzne video návody a manuály, možnosť pripojiť sa priamo ku konkrétnemu používateľovi (napríklad pomocou aplikácie vzdialenej plochy AnyDesk) a zabezpečujú rozsiahlu technickú podporu.

Malé a stredné podniky môžu v praxi využiť viacero jednoducho použiteľných analytických nástrojov a prehliadačov na spoluprácu a prepojenie s klientom, dodávateľom, zákazníkom či inou externou stranou. Vďaka cloudovým riešeniam sú údaje presné a rýchle, dostupné v reálnom čase, pomocou spoločného dátového prostredia a platformy spolupráce. Každá osoba, fáza a proces hladko spolupracujú, a tým pádom sa optimalizuje cyklus plánovania, zostavovania, či prevádzky. Takéto riešenia umožňujú všetkým zainteresovaným stranám pristupovať k projektom, dátam, informáciám a údajom, zdieľať ich, kontrolovať a komentovať v reálnom čase.

Malé a stredné podniky vedia automatizovať množsto procesov. Pomocou perpojenia ERP systému, napríklad s elektronickým obchodom, vedia efektívne manažovať skladové hospodárstvo, využívať automatizované vybavovanie objednávok (od úpravy a správy, automatického e-mailu zasielanému klientovi o evidovaní objednávky či odoslaní tovaru, pomocou API sa prepojiť s dopravnou či kuriérskou službou a automaticky generovať napríklad prepravné štítky, či využiť automatickú notifikáciu o úhrade platby). ERP systém umožňuje prepojenie s bankami, alebo môžu e-shopy využiť rôzne moduly, ktoré automatizujú procesy a uľahčujú prácu pri kontrole prijatých platieb a ich párovania k objednávkam. Takéto prepojenia šetria čas a minimalizujú chybovosť. Malé a stredné podniky vedia rýchlo generovať rôzne reporty či využívať sofistikované analytické nástroje, vedia lepšie plánovať, a tým zvýšovať svoju efektivitu a produktivitu. Existuje množtvo marketingových nástrojov, programov a platforiem, pomocou ktorých vie podnik osloviť širšie publikum, zapájať publikum, sledovať výkonnosť, budovať si image, jednoducho uviesť novú značku na trh a rozšíriť rýchlo povedomie, stimulovať dopyt, či posilniť predaj. Elektronické obchody, ale aj iné spoločnosti, ktoré pôsobia v online svete môžu využívať rôzne moduly, ktoré umožňujú súlad s plnením požiadaviek bezpečnostných nariadení, zákonov a noriem, ako napríklad modul GDPR (General Data Protection Regulation, Všeobecné nariadenie na ochranu osobných údajov) či Cookie bar (modul pre vyžiadanie súhlasu s používaním cookies na zariadení používateľa webu) a ich jednoduchá inštalácia a aktualizácia umožňujú byť v súlade s platnou legislatívou. Veľmi často využívané je automatické načítavanie adresy a údajov napríklad po zadaní IČO, čím sa minimalizujú preklepy a nesprávne zadané údaje. Automatizácia odbremeňuje zamestnancov od rutinnej práce, zvyšuje ich efektivitu a produktivitu.

Veľmi populárnym sa stáva využívanie externých nástrojov na preklady. Toto automatizované, kvalitné a presné prekladanie môže priniesť rýchlu a efektívnu expanziu na

nové trhy za pomerne nízke náklady a v rýchlom čase.

Malé a stredné podniky využívajú rôznych chatbotov a AI agentov. Výhodou je, že virtuálny asistent je k dispozícii neustále (24/7/365), poskytuje rýchle a presné informácie s pomerne nízkymi nákladmi.

Nakoniec určite treba spomenúť využívanie umelej inteligencie (AI, artificial intelligence), kde za pomoci využívania digitálnych technologií sa vytvárajú systémy, ktoré vykonávajú rôzne úlohy, napodobňujú ľudské myslenie, sú agilné a responzívne, môžu spracovávať terabajty dát v reálnom čase, informácie sa spracúvajú rýchlejšie a presnejšie. Tieto technológie rozširujú schopnosti ľudí, zvyšujú produktivitu a efektivitu na pracovisku.

3.2 Systematické a efektívne vzdelávanie zamestnancov

Implementovanie a využívanie všetkých týchto nástrojov, systémov, softvérov a technológií si vyžaduje systematické a efektívne vzdelávanie zamestnancov, pričom je dôležité poskytovať školenia nielen ohľadom digitálnych zručností, ale aj kybernetickej bezpečnosti.

Malé a stredné podniky majú k dispozícii množstvo metód, od klasických školení, seminárov a tréningov, pričom veľmi populárne sa stávajú on-line e-learningové kurzy, webináre, workshopy a tutoriály, ktoré poskytujú rýchle informácie na vyriešenie problému, otázok, tém v krátkom čase v online priestore. Treba spomenúť aj videokonferencie a videokomunikácie, ktoré šetria náklady a čas. Populárnym sa stáva mobilné vzdelávanie, kde rôzne aplikácie umožňujú pristupovať k študijnému materiálu a obsahu z mobilných zariadení.

Pri výbere softvéru sú veľkou výhodou demoverzie, kde si vie užívateľ predom pozrieť a otestovať užívateľské prostredie, poprípade sa demoverzie používajú na zaškolenie nových zamestnancov a pracovníkov, ako aj zaškolenie na nový program či aktualizáciu.

Pri riešení problémov, aktualizácií, postupov sa využíva množstvo online dostupných užívateľských príručiek, či videí, ako aj obrázkových návodov a infografiky, kde pomocou obrázkov, symbolov, grafov a krátkych textov sa vysvetľujú špecifické postupy, ktoré tak poskytujú prehľadnú prezentáciu veľkého množstva dát a údajov v krátkom čase v užívateľsky prívetivom prostredí.

3.3 Kybernetická bezpečnosť a ochrana

Digitálna transformácia a automatizácia však prinášajú aj riziko kybernetických útokov. Preto je veľmi dôležité, aby malé a stredné podniky zvyšovali kybernetickú bezpečnosť a dbali na ochranu dát.

Veľmi dôležitým krokom je aktualizácia softvérov, ktorá je základom dobrej kybernetickej bezpečnosti, zlepšuje ich rýchlosť a výkon, vylepšujú sa funkcie, zaručuje sa kompatibilita s novšími systémami a technológiami, a okrem iného sa vylepšuje aj vzhľad a užívateľovi prináša jednoduchšie ovládanie. Malé a stredné podniky a ich zamestnanci by sa mali vyhýbať používaniu neoverených softvérov alebo otváraniu škodlivých e-mailových príloh či správ. Dôležité je pozorne sledovať prijaté e-maily a neotvárať podozrivé správy či odkazy, pokiaľ je to možné, aktivovať si dvojfaktorovú autentifikáciu, ktorá pomáha ochrániť užívateľské kontá a účty od neautorizovaného prístupu, ako aj dbať nad pravidelným menením a zadávaním silných hesiel.

Spoločnosti a podniky by mali dbať na pravidelné školenia zamestnancov a pracovníkov ohľadom kybernetickej bezpečnosti, ochrany dát, zvyšovania zručností a schopností s cieľom odhaliť phishing či potenciálnu kybernetickú hrozbu či útok. Na trhu je množstvo špecialistov poskytujúcich školenia a semináre s cieľom budovať povedomie o kybernetických hrozbách a tým chrániť spoločnosť pred kybernetickými nástrahami a útokmi.

Malé a stredné podniky môžu využívať rôzne moduly na ochranu proti SPAMU (nevyžiadanej pošte a správe) či moduly na blokáciu IP adries, ochranu pred nechcenými robotmi či blokáciu prístupu nevyžiadaných krajín sveta a zón,

pričom sa tak dá zabrániť rôznym kybernetickým útokom a ochrániť e-shop či web.

Veľmi dôležité je, aby zamestnanci pri homeoffice alebo pracovných cestách využívali bezpečnú, overenú sieť a pripojenie, chránili svoje heslá do systémov a vždy mali svoje firemné zariadenia (mobilný telefón, laptop či tablet) pod kontrolou.

Malé a stredné podniky by si mali vytvárať niekoľko stupňové zálohy, aby v prípade výpadku, straty, či útoku vedeli systémy a dáta rýchlo obnoviť a sprevádzkovať.

4. ZÁVERY A ODPORÚČANIA

Digitálna transformácia a automatizácia prispievajú k zvýšeniu efektivity a produktivity ľudských zdrojov a konkurencieschopnosti malých a stredných podnikov. Spoločnosti vedia využívať množstvo softérov, modulov a nástrojov na lepšie a efektívnejšie plánovanie podnikových zdrojov a automatizáciu procesov, ktoré zvyšujú efektivitu a produktivitu zamestnancov. Malé a stredné podniky vedia pracovať s obrovským množstvom dát a údajov, zdieľať ich, kontrolovať a analyzovať v reálnom čase. Vďaka tomu sa optimalizujú procesy, zvyšuje sa výkonnosť, znižuje sa chybovosť a zvyšuje produktivita práce. S príchodom digitalizácie sa však zvyšuje hrozba kybernetických hrozieb a útokov s cieľom získať citlivé informácie, ako sú prístupové heslá, databázy, či osobné údaje. Preto je dôležité neustále a systematické vzdelávanie zamestnancov, pravidelná aktualizácia softvérov, modulov a licencií s cieľom zvyšovať kybernetickú bezpečnosť a ochranu dát.

REFERENCES

ABRA Software a.s. K dispozícii na: http://www.abra.eu/flexi/

ACTIVE-ONE. K dispozícii na: www.active-one.sk

Colníková, L., Kardoš, M. EURAKTIV (2023). Posuňme digitálnu ekonomiku Slovenska medzi najlepšiu európsku pätnástku. K dispozícii na: https://euractiv.sk/section/digitalizacia/opinion/posunme-digitalnu-ekonomiku-slovenska-medzi-najlepsiu-europsku-patnastku/

EURÓPSKA KOMISIA. Slovensko 2022. Index digitálnej ekonomiky a spoločnosti (DESI) 2022 SLOVENSKO (2024-11-05)

EURÓPSKA RADA RADAEURÓPSKEJ ÚNIE. Ako bunguje umelá inteligencia: využitie a jej vplyv: K dispozícii na: https://www.consilium.europa.eu/sk/policies/ai-explained/

HARGAS, J. (2022) . Nestačí investovať do technológií, rovnako dôležité sú digitálne zručnosti občanov, ktorí ich majú používať. K dispozícii na: https://www.linkedin.com/pulse/nestačí-investovať-do-technológií-rovnako-dôležité-sú-jan-hargas?trk=public_post

Trimble ConnectTM K dispozícii na: https://connect.trimble.com

SAP. Čo je to umelá inteligencia. K dispozícii na: https://www.sap.com/sk/products/artificial-intelligence/what-is-artificial-intelligence.html (2025-01-16)

SLOVAK BUSINESS AGENCY. Bratislava 2023. Správa o stave malého a stredného podnikania v SR 2022. K dispozícii na: https://www.sbagency.sk/sites/default/files/sprava_o_stave_maleho_a_stredneho_podnikania_na_slovensku_2022.pdf (2024-11-05)

Contact:

Ing. Zuzana DINKOVÁ GAŠPAROVIČOVÁ
S3D s.r.o.
Pod Juhom 7767/65
911 01 Trenčín, Slovensko,
e-mail: info@active-one.sk

SUMMARY

Digitalization and automation of processes are becoming an everyday part of the individual and the company, the employee and the employer, both internally and in connection with the external environment: with various institutions, government, customers or suppliers and contribute to increasing the efficiency and productivity of human resources and the competitiveness of small and medium-sized enterprises. Companies can use a variety of software, modules and tools for better and more efficient planning of corporate resources and automation of processes that increase the efficiency and productivity of employees. Small and medium-sized enterprises can work with a huge amount of data and information, share it, control and analyze it in real time. Processes are optimized, performance is increased, errors are reduced and work productivity increases. However, with the advent of digitalization, the threat of cyber threats and attacks is increasing in order to obtain sensitive information, such as access passwords, databases or personal data. Therefore, continuous and systematic training of employees and regular software, moduls and licenses updates are important in order to increase cyber security and data protection in small and medium-sized enterprises.

ZÁKLADY INTERPRETÁCIE KULTÚRNYCH A PRÍRODNÝCH PAMIATOK

BASICS OF INTERPRETATION OF CULTURAL AND NATURAL SITES

Mária MICHALČÍKOVÁ

ABSTRAKT: *Tento článok predstavuje základné princípy a metódy interpretácie kultúrneho a prírodného dedičstva na zlepšenie návštevníckej skúsenosti a podporu ochrany pamiatok. Diskutované sú princípy Freemana Tildena, ich implementácia v certifikačných kurzoch Interpret Europe a prínosy týchto aktivít pre udržateľný rozvoj. Článok sa zameriava na potrebu prepojenia pamiatok s hodnotami a životnými skúsenosťami návštevníkov.*

Kľúčové slová: *interpretácia, kultúrne dedičstvo, prírodné dedičstvo, udržateľný rozvoj, Freeman Tilden*

ABSTRACT: *This article presents the basic principles and methods of interpreting cultural and natural heritage to improve visitor experience and support monument preservation. It discusses Freeman Tilden's principles, their implementation in Interpret Europe certification courses, and the benefits of these activities for sustainable development. The article focuses on the necessity of connecting heritage sites with the values and life experiences of visitors.*

Key words: *heritage interpretation, cultural heritage, natural heritage, sustainable development, Freeman Tilden*

https://doi.org/10.52665/ser20240209

1. Úvod

Interpretácia kultúrneho a prírodného dedičstva je kľúčovým nástrojom na zlepšenie návštevníckej skúsenosti a podpory ochrany pamiatok. Ako zdôraznil Freeman Tilden vo svojej práci „Interpreting our Heritage" (1957), interpretácia presahuje jednoduché poskytovanie informácií. Je to umenie, ktoré má odhaliť hlbší zmysel a podporiť pochopenie.

2. Metodológia a princípy interpretácie

2.1 Základné princípy Freemana Tildena

Tilden formuloval šesť princípov, ktoré tvoria jadro modernej interpretácie:

1. Interpretácia nie je len poskytovanie faktov; jej cieľom je odhaliť hlbší zmysel.
2. Každá interpretácia by mala byť relevantná pre život a skúsenosti návštevníka.
3. Jej hlavným cieľom je provokovať k premýšľaniu, nie poučovať.
4. Interpretácia by mala byť komplexná a adresovať celú osobnosť návštevníka.
5. Vždy kombinuje rôzne disciplíny a zohľadňuje viaceré perspektívy.
6. Pre deti je potrebné použiť osobitné metódy, ktoré nie sú iba zjednodušením interpretácie pre dospelých.

Cieľom interpretácie miestneho dedičstva je predstaviť miesta, veci, ľudí, činnosti alebo udalosti takým spôsobom, aby sa návštevníkovi účinne sprostredkovala téma. Ak interpretátor viď Obrázok 1. dokáže spojiť tému so silným zážitkom, je oveľa väčšia šanca, že si návštevník informácie zapamätá. Zážitok teda nie je cieľom, ale prostriedkom pri interpretácii.

Obrázok 1: Interpretačný trojuholník

(zdroj: www.interpret-europe.net)

Zážitok teda nie je cieľom, ale prostriedkom pri interpretácii. Príkladom zážitku je využitie historického kostýmu pri prehliadke (Obr.2).

Obrázok 2. Sprievodca pri interpretačnej prehliadke

(zdroj: vlastný archív autorky)

2.2 Certifikačné kurzy Interpret Europe

Interpret Europe pôsobí ako európska platforma pre spoluprácu a výmenu, najmä v oblasti výskumu a vzdelávania. Organizuje podujatia na vytváranie sietí a školenia a podporuje rozvoj národných asociácií pre tlmočenie v európskych krajinách.

Samotná Interpret Europe je členom:

- Globálna aliancia pre interpretáciu dedičstva GAHI
- Climate Heritage Network
- Aliancia európskeho dedičstva
- Fórum kultúrneho dedičstva

Interpret Europe je členská organizácia registrovaná ako charitatívna organizácia v Nemecku. Má viac ako 1000 členov z viac ako 55 krajín. Misia Interpret Europe je: Posilniť všetkých, ktorí inšpirujú zmysluplné spojenie s prírodným a kultúrnym dedičstvom Európy, aby formovali našu spoločnú budúcnosť.

Členskú základňu Interpret Europe tvoria:

- Jednotlivci pracujúci ako sprievodcovia alebo školitelia, dizajnéri, copywriteri alebo plánovači alebo pri riadení správcovských organizácií pamiatok
- Inštitúcie alebo organizácie, ktoré učia o prírodnom alebo kultúrnom dedičstve
- Firmy ponúkajúce interpretačné alebo podporné služby a dodávky

Kurzy Interpret Europe ponúkajú nástroje a zručnosti na aplikáciu princípov spomenutých v bode 2.1.. Medzi najdôležitejšie patrí Certified Interpretive Guide (CIG), určený pre sprievodcov a lektorov pamiatok, pracovníkov múzeí, galérií a národných parkov, turistických organizácií a pod. V kurzoch zdôrazňuje dôležitosť prepojenia faktov s univerzáliami, ako sú rodina, komunita, sloboda, rovnoprávnosť, mier, vojna, ľudská dôstojnosť a pod..

3. Diskusia

3.1 Prepojenie s hodnotami

Interpretácia pamiatok by mala smerovať k prepojeniu s univerzáliami, ktoré sú zrozumiteľné pre všetkých návštevníkov bez ohľadu na ich pôvod. Príkladom je historická sýpka (Obrázok 3.), ktorej význam symbolizuje prežitie a bezpečnosť komunity. Oproti prostému vymenovaniu faktov, ktoré zahŕňa, že sýpka pochádza z 12. storočia a je postavená z dreva má zdôraznenie významu vyšší potenciál u

návštevníka vytvoriť si k pamiatke vzťah založený na jeho vlastných unikátnych hodnotách a skúsenostiach-

Obrázok 3. Historická sýpka UNESCO World Heritage Swiss Alps Jungfrau-Aletsch Switzerland

(zdroj: www.interpret-europe.net)

3.2 Príklady vhodnej a nevhodnej interpretácie

Vhodná interpretácia:

- Pri prezentácii hradu sa zdôrazní jeho historický význam a prepojenie na miestnu komunitu, napríklad formou príbehov o živote ľudí, ktorí tam žili.

- Prirodný park je interpretovaný s dôrazom na jeho ekosystém a dôležitosť ochrany prírody, a to prostredníctvom interaktívnych workshopov a praktických ukážok.

Nevhodná interpretácia:

- Hrad je prezentovaný iba ako miesto s veľkým počtom schodov bez akéhokoľvek kontextu alebo príbehu.

- Prirodný park je popisovaný ľudom len ako miesto na piknik, bez vysvetlenia jeho unikátnej flóry a fauny alebo vzácnych druhov.

3.3 Udržateľný rozvoj

Programy Interpret Europe vo svojich vzdelávaích rámcoch plne podporujú ciele udržateľného rozvoja stanovené Agendou 2030. Zameriavajú sa na ochranu dedičstva a jeho prenos budúcim generáciám a kvalitné vzdelávanie.

4. Závery a odporúčania

Interpretácia kultúrnych a prírodných pamiatok má dôležitú úlohu pri celoživotnom informálnom vzdelávaní verejnosti v ochrane dedičstva. Je potrebné, aby boli návštevníci aktívne zapájaní a aby bola zdôraznená relevantnosť hodnôt, ktoré pamiatky reprezentujú k ich vlastným životom. Pre efektívnu implementáciu je kľúčová spolupráca správcov pamiatok so vzdelávacími programami, ako sú kurzy Interpret

REFERENCES

Tilden, F. (1957). Interpreting our Heritage. Chapel Hill: University of North Carolina Press.
Brown, D. (1991). Human Universals. New York: McGraw-Hill.
Agenda 2030. Sustainable Development Goals. Dostupné online: https://sdgs.un.org/goals
Interpret Europe. (2025). Certification Program Overview. Dostupné online: https://www.interpreteurope.net

Contact:

Ing. Mária Michalčíková
M. Korvína 518/2,
922 07 Veľké Kostoľany
Mail: maria.michalcikova@gmail.com

SUMMARY

The article explores the principles of heritage interpretation and its application in cultural and natural sites. Highlighting Freeman Tilden's foundational principles and their role in sustainable development, it stresses the importance of connecting heritage with visitors' values. Interpret Europe's training programs are presented as essential tools for effective interpretation.

KĽÚČOVÉ OBLASTI RIADENIA ĽUDSKÝCH ZDROJOV PRE LEPŠIU PRIPRAVENOSŤ NA BUDÚCE KRÍZY A ZMENY NA TRHU PRÁCE

KEY AREAS OF HUMAN RESOURCE MANAGEMENT FOR BETTER READINESS FOR FUTURE CRISES AND CHANGES IN THE LABOR MARKET

Petra MICHÁLEKOVÁ

Abstrakt: *Tento príspevok sa zameriava na identifikáciu a analýzu kľúčových oblastí riadenia ľudských zdrojov, ktoré zohrávajú zásadnú úlohu v príprave organizácií na budúce krízy a zmeny na trhu práce. Analýza vychádza zo súčasných trendov a skúseností z nedávnych globálnych kríz, najmä pandémie COVID-19, ktorá významne ovplyvnila pracovný trh a spôsoby práce. Zaoberá sa identifikáciou hlavných výziev súčasnosti, medzi ktoré patria technologický pokrok, demografické zmeny a ďalšie globálne trendy. Cieľom je navrhnúť konkrétne implementačné stratégie a odporúčania pre zvýšenie organizačnej odolnosti prostredníctvom efektívneho riadenia ľudských zdrojov. Článok predstavuje komplexný pohľad na problematiku a poskytuje praktické odporúčania pre implementáciu inovatívnych HR prístupov, ktoré môžu zlepšiť pripravenosť na budúce krízy.*

Kľúčové slová: *organizačná odolnosť, krízový manažment, agilné riadenie, digitálna transformácia, talent manažment*

Abstract: *This article is focused on identification and analyses of key areas of human resources management which are crucial for preparing the organisations for possible future crises and changes on the labour market. These analyses is based on the current trends and experience from latest global crises, especially the COVID-19 pandemic, which significantly affected the labour market and the various ways of working. Article is aiming to identify the main challenges such as the technological progress, demographical changes and other global trends. The main objective is to outline specific strategies of implementations and recommendations to increase the company resistance throughout the effective HR management. The article represents a complex overview of the topic and offers practical recommendations for implementing of innovative HR approaches which can improve the readiness for possible future crises.*

Key words: *company resistance, crisis management, agile management, digital transformation, talent management*

https://doi.org/10.52665/ser20240210

1 ÚVOD

Súčasná doba je charakterizovaná bezprecedentnými zmenami, ktoré zásadným spôsobom ovplyvňujú podobu práce a spôsob riadenia ľudských zdrojov. V súčasnom turbulentnom prostredí čelia organizácie mnohým výzvam, ktoré vyžadujú prehodnotenie tradičnejších prístupov k riadeniu ľudských zdrojov. Digitálna transformácia, globálna konkurencia a neustále sa meniace podmienky vytvárajú príležitosti pre organizácie a ako pripomína čínske príslovie, "Keď fúka vietor zmeny, niekto stavia múry a niekto veterné mlyny." Stavanie veterných mlynov reprezentuje proaktívny, inovatívny prístup, využitie zmien ako príležitostí, adaptabilitu a flexibilitu zamestnancov, celkovo organizačnej štruktúry a procesov. Predstavuje tiež kreatívne myslenie, investície firiem do inovácií, nových technológií, prispôsobovanie sa trhovým zmenám a hľadanie nových príležitostí v krízach. U jednotlivcov predstavuje zase rozvoj nových zručností, kontinuálne vzdelávanie a osobnostný rozvoj. Práve proaktívny prístup k zmenám, reprezentovaný stavaním veterných mlynov, je kľúčovým faktorom úspechu spoločností v súčasnom dynamickom prostredí. Schopnosť organizácií proaktívne reagovať na zmeny a budovať odolné systémy riadenia ľudských zdrojov sa zároveň stáva predpokladom dlhodobého a udržateľného úspechu.

1.1 Identifikácia kľúčových výziev

Moderné koncepty v oblasti riadenia a rozvoja ľudských zdrojov zdôrazňujú potrebu holistického prístupu k riadeniu organizácií. Teoretické koncepty tiež zdôrazňujú potrebu agilného prístupu, budovania organizačnej odolnosti, rozvoja adaptabilných kompetencií, implementácie inovatívnych HR riešení, ako aj strategického prístupu k talent manažmentu. Tieto koncepty reagujú na hlavné výzvy, ktorým čelia organizácie v oblasti riadenia svojich ľudí a medzi ne patrí najmä:

- technologický pokrok a digitálna transformácia,
- demografické zmeny a nedostatok pracovnej sily,
- globálne trendy ovplyvňujúce trh práce ako je automatizácia, nové formy práce,
- transformácia vzdelávacieho systému.

Identifikované oblasti v nasledujúcich častiach rozpracujeme bližšie. Vychádzame pritom z analýzy súčasných trendov a výziev, na základe ktorej sme si identifikovali kritické kompetencie pre krízové obdobia. Následne na základe analýzy a našich odborných osobných skúseností navrhujeme strategický rámec pre budovanie odolných HR systémov a konkrétne odporúčania pre implementáciu preventívnych opatrení.

1.1.1 *Technologická pokrok a digitálna transformácia*

Žijeme v ére dátovej a digitálna transformácia predstavuje fundamentálnu zmenu v spôsobe fungovania organizácií. Vyžaduje posilňovanie digitálnych zručností zamestnancov a rozvoj kompetencií v oblasti práce s dátami a analytickými nástrojmi. Systematický rozvoj digitálnych zručností predstavuje preto základný pilier pripravenosti na budúce krízy. Organizácie potrebujú implementovať komplexné programy digitálneho vzdelávania, podporovať u zamestnancov schopnosť adaptácie na nové technológie a zároveň budovať kultúru digitálnych inovácií. AI/umelá inteligencia nám zase ponúka široké možnosti pre zefektívnenie práce, no stále sa mnoho firiem a zamestnancov bráni jej implementácii. Implementácia umelej inteligencie predstavuje ale významnú príležitosť pre zefektívnenie pracovných procesov.

Z pohľadu zabezpečenia kontinuity činností, napríklad ako tomu bolo počas pandémie COVID-19, je pre organizácie dôležité budovať robustnú IT infraštruktúru, implementovať cloudové systémy a efektívne nástroje pre vzdialenú prácu. Zároveň je potrebné automatizovať rutinné HR procesy. Takáto technologická infraštruktúra vytvára predpoklad pre efektívne zvládnutie aj krízovejších období. Digitálna kultúra súčasne podporuje inovácie a experimentovanie, otvorenú komunikáciu, zdieľanie znalostí, čo je dôležité pre budovanie adaptabilnej organizácie schopnej rýchlo reagovať na zmeny. To zároveň prispieva k lepšiemu využívaniu digitálnych nástrojov, rozvoju kreativity zamestnancov a ich aktívnemu zapojeniu do kontinuálneho zlepšovania procesov, podporuje kolaboratívne pracovné prostredie a umožňuje efektívnejšie šírenie informácií naprieč organizáciou.

1.1.2 *Demografické zmeny a nedostatok pracovnej sily*

Demografické zmeny a trendy nepriaznivého vývoja vytvárajú významný tlak na trh práce a vyžadujú nové prístupy k získavaniu a udržaniu zamestnancov, nakoľko tradičné spôsoby náboru už prestávajú byť dostačujúce. Rastúci nedostatok pracovnej sily je spôsobený najmä negatívnym demografickým vývojom, kedy starnúca populácia a klesajúca pôrodnosť vedú k systematickému znižovaniu počtu ekonomicky aktívneho obyvateľstva. Demografická krivka ukazuje výrazný nárast podielu obyvateľov v poproduktívnom veku, zatiaľ čo podiel mladých ľudí vstupujúcich na trh práce klesá. Tento trend je ešte zvýraznený odchodom silných populačných ročníkov do dôchodku, čo vytvára významné medzery v pracovnej sile, ktoré nebude možné plne nahradiť mladšími generáciami. Situáciu komplikuje odliv kvalifikovanej pracovnej sily do zahraničia a rastúce nároky na špecializované znalosti a zručnosti v rôznych odvetviach.

Takýto nedostatok pracovnej sily vytvára tlak na organizácie v oblasti budovania inkluzívnej

kultúry a implementácie inkluzívnych prístupov. Zamestnávatelia musia hľadať alternatívne zdroje pracovnej sily, preto bude čoraz viac potrebné presadzovať stratégie zamestnávania diverzifikovaných skupín, vrátane starších zamestnancov, rodičov na materskej dovolenke, príslušníkov marginalizovaných skupín i zahraničných pracovníkov. Práve využívanie zahraničných pracovníkov rôznych národností je už realitou mnohých firiem, pričom dôležité je ich začlenenie do pracovného prostredia, ako aj odbúranie predsudkov voči takýmto pracovníkom. S kultúrnou a vekovou rozmanitosťou zase súvisí potreba medzigeneračnej spolupráce, inklúzie rôznych skupín do pracovného prostredia. Organizácie budú čoraz viac musieť podporovať inkluzívne stratégie zamestnávania, vytvárať programy pre starších zamestnancov, podporovať návrat z materskej dovolenky, integrovať napríklad aj zdravotne znevýhodnených a prispôsobovať pracovné podmienky ich potrebám. V súvislosti so zamestnávaním zahraničných pracovníkov je potrebná určitá kultúrna adaptácia, odbúravanie jazykovej bariéry a zabezpečenie integračných programov pre adaptáciu na pracovné prostredie a presadzovanú firemnú kultúru.

Globálne trendy – automatizácia, nové flexibilné pracovné modely

Vzhľadom na rastúci nedostatok kvalifikovanej i menej kvalifikovanej pracovnej sily sú organizácie nútené pristupovať k automatizácii procesov a robotizácii, ktorá prináša úsporu pracovnej sily v určitých oblastiach. Na druhej strane vzniká potreba špecializovaných pracovníkov, nutnosť rekvalifikácie existujúcich zamestnancov a s tým súvisiace investície do vzdelávania a ďalšieho rozvoja. Čoraz častejšie je tiež využívanie hybridných foriem zamestnávania, skrátené úväzky, práca z domu, ktorá sa stala bežnou realitou počas pandémie. Mnoho firiem ostalo v tomto režime, časť začalo využívať prácu z domu ako formu benefitu, ktorú čoraz viac vyžadujú aj uchádzači o zamestnanie a časť firiem sa stále bráni, keďže majú obavy, že nebudú mať zamestnancov pod kontrolou. Veľkou výzvou pre mnohé spoločnosti je adaptácia na prácu na diaľku, s čím súvisí vedenie virtuálnych a multikultúrnych tímov. Pre moderné organizácie je tiež dôležité budovať hybridné pracovné prostredie, vytvárať efektívne systémy pre prácu na diaľku, implementovať flexibilné pracovné úväzky. Trendom sa stávajú projektové úväzky, prípadne aj zdieľané pracovné miesta. V takomto hybridnom prostredí rastie potreba implementácia efektívnych nástrojov na spoluprácu a komunikáciu, rozvoja špecifických kompetencií pre virtuálnu spoluprácu, vedenie virtuálnych a multikultúrnych tímov, budovanie dôvery v online prostredí, ako aj zabezpečenie work-life balancu.

Transformácia vzdelávacieho systému

Vzdelávací systém v súčasnosti taktiež čelí výzvam v kontexte meniacich sa požiadaviek trhu práce. Zásadným aspektom v tejto problematike je dlhodobý nesúlad medzi vzdelávaním a potrebami praxe. Existujúce študijné odbory a programy často nereflektujú aktuálne potreby zamestnávateľov. Chýba prepojenie teoretických poznatkov s praktickými zručnosťami, ktoré dokážu študenti využiť priamo v praxi. Absolventi vo veľa prípadoch nemajú dostatočne rozvinuté mäkké zručnosti a nie sú dostatočne pripravení na prácu s novými technológiami. Do popredia sa dostáva potreba celoživotného vzdelávania, pretože získané vedomosti a zručnosti rýchle zastarávajú, požiadavky sa neustále menia a kontinuálny rozvoj digitálnych kompetencií sa stáva doslova nutnosťou. Technologický pokrok je rýchly a nezastaviteľný, požiadavky na flexibilitu a adaptabilitu pracovnej sily sú veľké, preto je rozvoj schopnosti učiť sa, prijímať a získavať nové zručnosti pre jednotlivcov zásadný. A tak, ako vznikajú nové formy práce, vznikajú aj nové formy vzdelávania. Kombinujú sa prezenčné a online formy, digitálne technológie sa využívajú aj vo vzdelávaní. Trendom sú interaktívne vzdelávacie metódy, ale aj personalizované vzdelávacie cesty, ktoré sa dokážu lepšie prispôsobiť individuálnym potrebám.

V súvislosti s týmito trendami je kladený dôraz na zamestnávateľov a firmy sa potrebujú aktívnejšie zapájať do vzdelávacieho procesu. Duálne vzdelávanie, praktické stáže, firemné vzdelávacie programy a akadémie, ale aj mentoring a koučing na pracovisku, sú realitou mnohých úspešných firiem. Do budúcnosti je nutné rozvíjať kompetencie ako kritické myslenie, riešenie problémov, digitálnu gramotnosť a prácu s dátami, kreatívne myslenie

a inovatívne prístupy, ale hlavne emocionálnu inteligenciu a sociálne zručnosti, pretože ľudský prístup je v takýchto podmienkach viac než potrebný. Nevyhnutné sú systémové zmeny vo vzdelávaní, aktualizácie vzdelávacích programov, posilnenie praktickej zložky a moderných technológií do vzdelávania. Transformácia vzdelávacieho systému si vyžaduje systematický prístup a spoluprácu všetkých zainteresovaných strán, či už sú to vzdelávacie inštitúcie, zamestnávatelia, odborníci z praxe, štát a samotní jednotlivci. Organizácie tu zohrávajú významnú úlohu v podpore kontinuálneho vzdelávania a rozvoja svojich zamestnancov, ako aj v aktívnej participácii na formovaní vzdelávacích programov.

Implementačné stratégie

Ako môžu teda organizácie efektívne reagovať na súčasné výzvy a byť pripravenejšie na budúce prípadné krízy a zmeny na trhu práce? V ďalších bodoch sumarizujeme konkrétne stratégie a prístupy, ktoré pomáhajú organizáciám nielen prežiť, ale aj prosperovať v ére transformácie. Za najzásadnejšie výzvy na trhu práce môžeme pritom považovať už vyššie uvedený technologický pokrok, demografické zmeny, globálne trendy, ale aj samotný vzdelávací systém, ktoré vytvárajú novú realitu trhu práce. Dôležitý je trvalo udržateľný rozvoj firiem, ktorý je založený na vytváraní inkluzívneho pracovného prostredia, podpore diverzity, investíciách do rozvoja a ďalších iných oblastí v kontexte spoločenskej zodpovednosti.

Pri implementácii jednotlivých opatrení je potrebné samozrejme zohľadniť organizačné špecifiká, existujúcu firemnú kultúru, ako aj dostupné zdroje a kapacity. Do úvahy musia organizácie zobrať už existujúce systémy a zavedené procesy, ktoré by mali podporovať pripravenosť organizácií a jej zamestnancov na zmeny. Pri vyhodnocovaní efektivity implementovaných stratégii môžeme potom sledovať kľúčové indikátory výkonnosti (KPIs) a ich vývoj v jednotlivých obdobiach, ale tiež mieru spokojnosti a angažovanosti zamestnancov, ktorá súvisí s mierou adaptability organizácie a v konečnom dôsledku aj úrovňou pripravenosti na budúce krízy.

Organizačná flexibilita a agilné riadenie

V kontexte neustálych zmien je pre úspešnú adaptáciu kľúčové implementovať flexibilnejšie organizačné štruktúry a podporovať inovatívne myslenie, ktoré je predpokladom pre vytváranie kultúry neustáleho zlepšovania. Taktiež vytváranie multifunkčných tímov môže pomôcť k efektívnejšiemu riadeniu procesov. Zároveň je ale potrebné pravidelne prehodnocovať stratégie a prispôsobovať ich aktuálnej situácii. Agilné riadenie je predpokladom pre organizačnú flexibilitu, čo však vyžaduje rozvoj kompetencií lídrov aj v oblasti krízového manažmentu. Pre zvýšenie adaptability je vhodné implementovať plochšie organizačné štruktúry, redukovať hierarchické úrovne, vytvárať samo-organizujúce sa tímy, rôzne projektové tímy a rozvíjať agilné metódy riadenia. Práve agilný prístup k riadeniu predstavuje potrebný flexibilný a adaptabilný spôsob riadenia, ktorý umožňuje organizáciám rýchlo reagovať na zmeny v prostredí.

Talent manažment a rozvoj ľudského potenciálu

V ťažkých časoch dokážu kľúčoví ľudia potiahnuť organizáciu, preto je pre lepšiu pripravenosť na budúce krízy nevyhnutné získavať a udržať si talenty. Súčasne je však nevyhnutné budovať systém zastupiteľnosti, aby sme dokázali eliminovať negatívne dopady pri odchode talentu z organizácie. Jedným z nástrojov je vytváranie talent poolov pre kritické pozície, identifikácia takýchto kľúčových pozícií a zároveň kontinuálny rozvoj zamestnancov. Efektívny talent manažment predstavuje zásadný faktor úspechu organizácií. A aby firmy dokázali prilákať talenty, dôležité je vytvárať atraktívne pracovné prostredie, budovať zaujímavú firemnú kultúru a venovať sa employer branding aktivitám pre zvýšenie povedomia o značke. Aby si organizácie dokázali udržať talenty, dôležité je kariérne plánovanie, rozvojové programy pre nástupcov, prípadne aj rotácia pracovných miest.

NÁVRHY RIEŠENÍ A ODPORÚČANIA

Zásadnú úlohu by do budúcnosti mali zohrávať práve HR oddelenia, ktorých strategická rola bude pre trvalo udržateľný biznis veľmi dôležitá.

Pre úspešné moderné organizácie je samozrejmé podporovať inovácie a vytvárať podporné prostredie pre kontinuálne vzdelávanie svojich zamestnancov a tiež posilňovať ich angažovanosť. V kontexte talent manažmentu je pre udržanie kľúčových zamestnancov dôležité vytvárať personalizované rozvojové plány, implementovať konkurencieschopné odmeňovacie systémy, podporovať kariérny rast, čím sa dokáže posilniť lojalita zamestnancov.

V období kríz a neustálych zmien je potrebné venovať zvýšenú pozornosť duševnému zdraviu zamestnancov. Organizácie by mali preto zavádzať rôzne programy zamerané na podporu fyzického i psychického zdravia, zdravého životného štýlu, športových aktivít, poskytovať psychologické poradenstvo a podporu. Dôležitá sa stáva prevencia proti stresu a pred vyhorením cez monitorovanie pracovnej záťaže, budovanie podporného pracovného prostredia. Dôležitým nástrojom pre efektívne zvládanie krízových období je leadership, a preto rozvoj moderných lídrov musí zahŕňať empatický prístup k vedeniu ľudí, efektívnu krízovú komunikáciu, schopnosti rýchleho rozhodovanie a ďalšie dôležité kompetencie pre krízové riadenie.

K hlavným odporúčaniam pre zvýšenie pripravenosti na budúce krízy patrí teda budovanie silnej organizačnej kultúry, posilňovanie programov psychického i fyzického zdravia zamestnancov, rozvoj flexibilných pracovných modelov a jednoznačne investovanie do digitálnej transformácie. Zároveň je dôležité implementovať komplexný systém krízového riadenia a rozvoj lídrov, ktorí budú pripravenejší pre zvládanie krízových období. Na zmeny sa firmy môžu adaptovať flexibilnejšími organizačnými štruktúrami, celkovo podporou flexibilného prístupu, rozvojom schopností rýchlo sa prispôsobovať novým meniacim sa podmienkam. S tým súvisí podpora inovatívneho myslenia, vytváranie multifunkčných tímov, pravidelné prehodnocovanie myslenia a stratégií, ktoré je potrebné prispôsobovať meniacemu sa prostrediu, nie sa rigidne držať plánu.

Pre agilné riadenie je potrebný samozrejme rozvoj lídrov schopných efektívne viesť tímy v náročných a neistých obdobiach, posilnenie ich komunikačných a riadiacich zručností, schopnosti robiť rýchle a informované rozhodnutia, ako aj rozvoj krízového manažmentu. Pre firmy je nesmierne dôležitý talent manažment, teda získanie a udržanie si talentov, kľúčových ľudí, ktorí dokážu potiahnuť v ťažkých časoch. Dôležité je však aj budovanie zastupiteľnosti, vytváranie talent poolov pre kritické pozície.Zvýšený stres a neistota vyžadujú väčší dôraz na podporu duševného zdravia zamestnancov. Firmy už majú zavedené komplexné programy podpory fyzického a mentálneho zdravia, poskytujú prístup k psychologickému poradenstvu, podporujú zdravý životného štýl, work-life balance. Musíme si uvedomiť, že úspech v dnešnom dynamickom prostredí nezávisí len od technológií a procesov, ale predovšetkým od ľudí a našej schopnosti vytvoriť prostredie, v ktorom môžu rásť, inovovať a realizovať svoj potenciál. S tým súvisí budovanie firemnej kultúry, ktorá bude pre zamestnancov atraktívna a vďaka ktorej dokážu prilákať i udržať si talenty.

Digitálna transformácia je pritom fundamentálnym predpokladom pre lepšiu pripravenosť na krízy. Flexibilita a adaptabilita sú zase kritické faktory úspechu. Pomocou rozoberaných implementačných stratégií je možné budovať organizačnú odolnosť, vďaka ktorej budú organizácie schopné prispôsobovať sa zmenám v prostredí, zvládať krízové situácie, udržovať kontinuitu činností aj v krízovejších obdobiach a zároveň sa učiť z predchádzajúcich skúseností. Pre organizácie je dôležité odporúčanie, aby sa aktívnejšie podieľali na transformácii vzdelávacieho systému a rozvoji svojej pracovnej sily. Je potrebné vytvárať silné partnerstvá so vzdelávacími inštitúciami, podieľať sa na tvorbe a aktualizácii vzdelávacích programov a poskytovať priestor pre praktické vzdelávanie. Firmy by mali implementovať vlastné vzdelávacie programy a akadémie, ktoré pomôžu prekonať nesúlad medzi teoretickou prípravou a praktickými požiadavkami. Dôležité je tiež podporovať systém duálneho vzdelávania a poskytovať kvalitné stáže a prax študentom, počas ktorých získajú reálne a praktické skúsenosti. V kontexte celoživotného vzdelávania je nevyhnutné vytvárať podmienky pre kontinuálny rozvoj zamestnancov, implementovať inovatívne formy vzdelávania a podporovať rozvoj kľúčových kompetencií budúcnosti - kritické myslenie, digitálnu

gramotnosť, kreatívne myslenie a emocionálnu inteligenciu.

3. ZÁVER

Trh práce prechádza naozaj zásadnou transformáciou, kedy digitalizácia a automatizácia menia charakter práce, nové formy práce sa stávajú štandardom a požiadavky na zručnosti sa dynamicky vyvíjajú. Z toho plynú organizáciám mnohé výzvy, najmä potreba kontinuálnej adaptácie na zmeny, rozvoj talentov a nových kompetencií, budovanie flexibilnej a odolnej organizácie. Pre HR to znamená nové príležitosti pre rozvoj, implementáciu inovatívnych HR riešení, využívanie technológií pre efektívnejšie riadenie, ako aj vytvorenie atraktívneho pracovného prostredia. Z pohľadu dlhodobej udržateľnosti a prosperity sú dôležité investície do vzdelávania a rozvoja zamestnancov, well-being programov, budovanie firemnej kultúry, rozvoj agilných prístupov k riadeniu, využívanie flexibilných pracovných modelov a talent manažment.

V kontexte transformácie vzdelávacieho systému zohrávajú organizácie nezastupiteľnú úlohu. Ich aktívne zapojenie do vzdelávacieho procesu, poskytovanie príležitostí pre praktické vzdelávanie a podpora celoživotného vzdelávania sú kľúčové pre prekonanie súčasného nesúladu medzi vzdelávaním a potrebami praxe. Implementácia moderných foriem vzdelávania, rozvoj kľúčových kompetencií budúcnosti a vytvorenie efektívneho systému kontinuálneho vzdelávania predstavujú významné faktory pre budovanie odolnej a konkurencieschopnej organizácie. Investície do vzdelávania a rozvoja zamestnancov, spolu s aktívnou participáciou na formovaní vzdelávacích programov, sú nevyhnutné pre zabezpečenie kvalifikovanej pracovnej sily v budúcnosti. Identifikované kľúčové oblasti a rozobrané stratégie predpokladajú transformáciu riadenia ľudských zdrojov, ktorá predstavuje komplexný proces a vyžaduje si systematický prístup. Úspech organizácií v rýchlo sa meniacom prostredí závisí od ich schopnosti proaktívne reagovať na zmeny, implementovať inovatívne riešenia, rozvíjať nové zručnosti. Budovanie organizačnej odolnosti cez pomenované stratégie tvoria významné preventívne opatrenia pre zvládanie budúcich kríz a zásadných zmien. HR systémy musia byť flexibilné a adaptabilné v meniacom sa prostredí.

Ako pripomína ďalšie čínske príslovie, "Najlepší čas pre zasadenie stromu bol pred 20 rokmi. Druhý najlepší je teraz." Organizácie by mali aktívne pristupovať k transformácii riadenia ľudských zdrojov, pretože budúcnosť patrí tým, ktorí konajú dnes. Rozhodnime sa teraz pre zmenu a môžeme sa okamžite pohnúť vpred. Teraz je ten najvhodnejší čas riešiť aktívne tieto kľúčové oblasti, aby sme sa lepšie pripravili na akékoľvek budúce krízy, ktoré zaručene prídu. A aj keď možno niektoré organizácie mohli začať s transformáciou skôr, nikdy nie je neskoro začať budovať silnú a adaptabilnú firemnú kultúru. Najhoršie čo môžeme urobiť, je neurobiť nič. Pretože budúcnosť patrí tým, ktorí konajú dnes. Jednotlivé oblasti sú pritom vzájomne prepojené a vyžadujú si komplexný prístup k rozvoju ľudských zdrojov a zároveň biznis partnering prístup HR ľudí. Tí by mali mať prehľad, byť začlenení do biznisových vecí a ekonomických rozmerov spoločnosti. Lebo akokoľvek sa budú organizácie starať o zamestnancov, firma musí byť v prvom rade profitabilná.

REFERENCES

Armstrong, M., & Taylor, S. (2020). Armstrong's Handbook of Human Resource Management Practice. London: Kogan Page Publishers p.776

Blštáková, J. et al. (2020). Riadenie ľudských zdrojov v ére digitálnych technológií. Bratislava: Wolters Kluwer, 180 s.

Farndale, E., Horak, S., Phillips, J., & Beamond, M. (2019). Facing complexity, crisis, and risk: Opportunities and challenges in international human resource management. Thunderbird International Business Review, 61(3), 465-470. K dispozícii na: https://www.researchgate.net/publication/330914488_Facing_complexity_crisis_and_risk_Opportunities_and_challenges_in_international_human_resource_management

Harney, B., & Collings, D. G. (2021). Navigating the shifting landscapes of HRM. Human Resource

Management Review, 31(4), 100824. K dispozícii na: https://www.researchgate.net/publication/349920639_Navigating_the_shifting_landscapes_of_HRM

McKinsey & Company. (2023). The Future of Work after COVID-19. McKinsey Global Institute. K dispozícii na: https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19#/

Stachová, K. et al (2021). Riadenie ľudí v digitálnej a post-pandemickej dobe. Wolters Kluwer. 148 s.

Stachová, K. et al (2024). Riadenie ľudí v digitálnom svete. Wolters Kluwer. 548 s.

Contact:

Mgr. et Mgr. Petra Micháleková
Projektový manažér
AWIN s.r.o
Komenského 108
919 04 Smolenice
Mail: michalekova@a-win.sk

SUMMARY

The article explores critical aspects of human resource management in preparing organizations for future crises and labor market changes. In today's unprecedented era of transformation, organizations face multiple challenges that require a fundamental shift in traditional HR approaches. The research identifies four key challenges that significantly impact modern organizations: technological advancement and digital transformation, demographic changes resulting in labor shortages, global trends towards automation and flexible work arrangements, and the transformation of educational systems.

Digital transformation emerges as a fundamental prerequisite for organizational success, requiring systematic development of digital skills and implementation of new technologies, including AI and automation. Organizations must build robust IT infrastructure while fostering a digital culture that promotes innovation and knowledge sharing. Simultaneously, demographic changes, characterized by an aging population and declining birth rates, are creating significant pressure on the labor market. This demographic shift, combined with the emigration of qualified workers, necessitates new approaches to talent acquisition and retention, including the implementation of inclusive employment strategies and diverse workforce management.

The global trend towards automation and new flexible work models presents another significant challenge. Organizations are increasingly adopting hybrid work arrangements, implementing flexible employment forms, and managing virtual teams, requiring new competencies in remote leadership and digital collaboration. The transformation of educational systems also plays a crucial role, as there is a growing misalignment between educational outcomes and practical workplace requirements. This necessitates stronger cooperation between educational institutions and employers, emphasizing the importance of lifelong learning and practical skill development.

To address these challenges, organizations are implementing various strategies, including the development of flexible organizational structures, agile management approaches, and comprehensive talent management systems. HR departments are taking on more strategic roles, focusing on innovation support, digital solution implementation, and the development of personalized career plans. Leadership development has become crucial, with emphasis on crisis management capabilities, empathetic leadership, and effective communication in uncertain times.

The success of organizations in this rapidly changing environment depends on their ability to proactively respond to changes, implement innovative solutions, and develop new competencies. Key success factors include not only digital transformation and organizational flexibility but also a strong focus on employee well-being and sustainable business practices. The article concludes that building organizational resilience requires a systematic, comprehensive approach to human resource management, emphasizing that while the best time for transformation might have been in the past, the second-best time is now, encouraging organizations to take immediate action in preparing for future challenges.

CIRCULAR CITY PROSTREDNÍCTVOM VZDELÁVACÍCH METÓD OBEHOVÉHO HOSPODÁRSTVA PRE SOCIÁLNE PODNIKY PRÍPADOVÁ ŠTÚDIA SLOVENSKO

CIRCULAR CITY THROUGH EDUCATIONAL CIRCULAR ECONOMY METHODS FOR SOCIAL ENTERPRISES CASE STUDY SLOVAKIA

Ján PLESNÍK, Matej PLESNÍK, Marian BAKITA

Abstrakt: *Living Labs (LL) – živé laboratóriá sú otvorené inovačné ekosystémy v reálnych životných prostrediach, ktoré využívajú procesy opakovanej spätnej väzby počas celého životného cyklu inovácie s cieľom vytvoriť udržateľný vplyv. Zameriavajú sa na spoločné vytváranie, rýchle prototypovanie a testovanie a rozširovanie inovácií a podnikania, pričom zainteresovaným stranám poskytujú spoločnú hodnotu (rôzne typy). V tomto kontexte živé laboratóriá fungujú ako sprostredkovatelia/orchester medzi občanmi, výskumnými organizáciami, spoločnosťami a vládnymi agentúrami/úrovňami. V rámci širokej škály živých laboratórií majú spoločné charakteristiky, ale viacero rôznych implementácií. Životné laboratóriá ako skutočné testovacie a experimentálne prostredie, podporujú spoluvytváranie a otvorené inovácie medzi hlavnými aktérmi modelu Quadruple Helix, a to: Široká verejnosť, Verejná správa a samospráva, Podnikateľský sektor a Vzdelávacie inštitúcie.*

Kľúčové slová: *quintuple a quadruple helix, inovácie, obehové hospodárstvo, regionálne centrum obehového hospodárstva, živé laboratórium*

Abstract: *Living Labs (LL) are open innovation ecosystems in real-world environments that use iterative feedback processes throughout the innovation lifecycle to create sustainable impact. They focus on co-creation, rapid prototyping and testing, and scaling innovation and entrepreneurship, providing shared value to stakeholders (various types). In this context, living labs act as mediators/orchestra between citizens, research organizations, societies and government agencies/levels. Across a wide variety of living labs, they share common characteristics but multiple different implementations.*
Living laboratories, as a real test and experimental environment, support co-creation and open innovation between the main actors of the Quadruple Helix model, namely: The general public, Public administration and self-government, Business sector and Educational institutions.

Key words: *quintuple a quadruple helix, innovations, circular economy, regional center of circular economy, living laboratory*

https://doi.org/10.52665/ser20240211

1. LIVING LAB 1. REGIONÁLNE SOCIÁLNE DRUŽSTVO

Living Labs (LL) – živé laboratóriá sú otvorené inovačné ekosystémy v reálnych životných prostrediach, ktoré využívajú procesy opakovanej spätnej väzby počas celého životného cyklu inovácie s cieľom vytvoriť udržateľný vplyv. Zameriavajú sa na spoločné vytváranie, rýchle prototypovanie a testovanie a rozširovanie inovácií a podnikania, pričom zainteresovaným stranám poskytujú spoločnú hodnotu (rôzne typy). V tomto kontexte živé laboratóriá fungujú ako sprostredkovatelia/orchester medzi občanmi, výskumnými organizáciami, spoločnosťami a vládnymi agentúrami/úrovňami. V rámci širokej škály živých laboratórií majú spoločné charakteristiky, ale viacero rôznych implementácií.

1.1. Základný pracovný prístup NARA-SK

NARA-SK rozvíja prechod z lineárneho na obehové hospodárstvo identifikáciou a rozvíjaním spolupráce organizácií a

jednotlivcov, ktorí investujú svoje podnikateľské a aj nepodnikateľské snaženie do rozvoja regiónu (komunity) tvorbou spoločných produktov. Je to v presnom súlade s operačným matrixom odporúčaným organizáciou The European Network of Living Labs (ENoLL): „Living Labs are real-life test and experimentation environments that foster cocreation and open innovation among the main actors of the Quadruple Helix Model, namely: Citizens, Government, Industry, Academia“.

V priebehu rokov sa ako najefektívnejšia forma vzdelávacieho podujatia v zavádzaní obehového hospodárstva do spoločenského vedomia v Slovenskej republike, ale aj v jednotlivých sektoroch produkcie tovarov a služieb v prostredí lineárneho hospodárstva „vyrob-použi-zahoď“ osvedčila organizácia kolektívneho podujatia, v rámci ktorého:

• sa stretli akýkoľvek stakeholderi so spoločným záujmom, ktorý je predmetom tohto podujatia,

• cieľom podujatia bolo poskytnutie inšpiračných informácií, ktoré odpovedali na vopred definovaný spoločný záujem stakeholderov podujatia,

• podujatie nepredpokladá jednotný, presne určený výstup, nakoľko každý stakeholder si odnáša informácie, inšpirácie a kontakty, ktoré následne rozvíja na základe vlastnej motivácie.

NARA-SK prechod na obehové hospodárstvo zakladá na spoločnej tvorbe produktov. Týmto postojom sa v priebehu rokov stala integračným centrom – hot spotom. Za prvoradý cieľ si kladie vytvoriť horizontálnu sieť s týmito kľúčovými odporúčaniami pre zapojených stakeholderov, ale aj pozorovateľov, ktorí sa dostávajú k výsledkom práce NARA-SK cez mediálne nástroje diseminácie:

ENVIRONMENTÁLNE – EKONOMICKY – SOCIÁLNE je rovnocenný prístup k riešeniu!

- Nezabudni plniť environmentálne záväzky spoločnosti voči prostrediu.
- Len ekonomicky udržateľné riešenia Ti pomôžu plniť ciele rozvoja.
- Obývateľné prostredie a sociálne spravodlivé miesta Ti prinesú pozitívny sociálny dopad pre komunitu.

NERUŠ to, čo je dobré, máš šancu to VYLEPŠIŤ!

(„*Learning from the Past“* - oPEN Lab, HE/No. 101037080)

- Pre prírodu platí zákon zachovania energie.
- Príroda sa našťastie na rozdiel od človeka nedá oklamať.
- Pre našu civilizáciu a slobodný trh musí platiť zákon zachovávania práce a ľudskej tvorivosti.
- Preto neklam sám seba.
- Využívaj model inovácie QUINTUPLE HELIX – ekonomiku založenú na vedomostiach. Tvoríme prostredie pre obyvateľov prostredníctvom súčinnosti samosprávy, podnikateľov a vzdelávacích inštitúcií. Kvalita života v regióne je založená na ekologickej stabilite územia, ekonomickej udržateľnosti zámerov pre sociálne pracovné a obývateľné podmienky obyvateľov.

NOVÉ PRODUKTY vytvára systémové riešenie obehového hospodárstva!

- Využívaj R-stratégie ako rámec pre obehové hospodárstvo.[1]
- Vytváraj krátke kolaboratívne reťazce pre inteligentnejšie používanie a výrobu produktov.
- Pripravuj, navrhuj a vyvíjaj produkty na základe hodnotového reťazca.
- Vytváraj život bez odpadu na spoločnej zodpovednosti komunity voči prostrediu.

HODNOTA sa dá vyjadriť v peniazoch, ale nie naopak!

- Hľadaj peniaze pre hodnotu a nie hodnotu za peniaze!
- Vytvorenou hodnotou dodržaním environmentálnych, ekonomických, sociálnych prístupov získaš kvalitu života v regióne.
- Územná AGENDA 2030 Ti ukazuje priority pre dosiahnutie cieľa udržateľného rozvoja regiónu a tvorby hodnoty.

KOLABORÁCIA je spolupráca podľa modelu QUADRUPLE HELIX, v ktorej sa vymieňajú myšlienky, motivácia, a všetky aktíva, ktorých

[1] R-stratégie ako rámec pre obehové hospodárstvo https://www.narask.sk/l/r-strategie-ako-ramec-pre-obehove-hospodarstvo-textended-prinasa-r-strategie-pre-textil/

majú zapojení stakeholderi vždy viac, ako IBA peniaze!

- Je základom pre hodnotenie spoločenského dopadu.
- Vieme spolupracovať.
- Vieme si vzájomne pomáhať.
- V komunite máme spoločný cieľ.
- Cieľ dosiahneme len spoločnou zodpovednosťou.

KOOPERÁCIA je spolupráca, ktorá mení produkty komunity v prospech inej komunity na peňažnú výmenu

- Regionálne centrum obehového hospodárstva – RCOH[2] je ekologický, ekonomicky efektívny a sociálne spravodlivý systém obehového hospodárstva v regióne tvorby prostredia podľa modelu QUINTUPLE HELIX.
- Regionálne centrum obehového hospodárstva RCOH predstavuje systémové riešenie potrebných pre tvorbu všetkých oblastí integrovaného rozvoja regiónu
- Na družstevnej forme vytvára kolaboratívne hospodárstvo spolupráce jednotlivých RCOH medzi regiónmi.
- Peňažnou výmenou si tvorí RCOH vlastný sociálny a investičný fond.

NARA-SK pomenúvala v minulosti takto organizované stretnutia stakeholderov pod rôznymi názvami (workshop, Private-Public-Partnership/PPP, veľký tresk/big-bang,...) Základným cieľom stretnutí vždy ostávalo poznanie, že kolaterálne spoločné snaženie jednotlivých bottom-up iniciatív má potenciál zmeniť celostný landscape problému pri dosiahnutí integrovanej väčšiny s potenciálom na zmenu kvality.

NARA-SK realizuje svoje súčasné a budúce „Living Labs“ a Lighthouse Pilots“ s cieľom najrýchlejšieho prenosu projektovej sociálnej inovácie do praxe, pričom jediným merítkom kolaborácie je efektívna a účinná predošlá motivácia potenciálneho budúceho stakeholdera. Charakteristickou sociálnej implementácie je spolupráca znalostnej organizácie NARA-SK, ktorá sveje nápady a zámery overuje v procese sociálnej ekonomiky u podniku obehového hospodárstva POH, s.r.o., „registrovaný sociálny podnik“ a sieťovanie aktérov rozvoja regiónu pre implementáciu realizuje REGIONÁLNY PRIEMYSELNÝ INOVAČNÝ KLASTER RIMAVSKÁ KOTLINA REPRIK.

2. ZÁKLADNÉ ORGANIZAČNÉ NASTAVENIE SPOLUPRÁCE

Miestna akčná skupina MAS IPEĽ – HONT[3], občianske združenie, vzniklo v roku 2013 na základe vzájomne dohody obcí v regióne s ich záujmom zapojiť sa do čerpania európskych štrukturálnych investičných fondov určených na rozvoj vidieka iniciatívou EÚ LEADER/CLLD (Liaison Entre Actions de Développement de le Économie Rurale/Community Led Local Development). LEADER má v EÚ viac ako 20-ročnú históriu a od roku 2007 je súčasťou celoslovenského Programu rozvoja vidieka 2014 – 2020. Organizačná forma na čerpanie týchto zdrojov je Miestna Akčná Skupina – MAS IPEĽ-HONT.

Kľúčové znaky prístupu LEADER:

- Znak č. 1. Oblastné stratégie miestneho rozvoja
- Znak č. 2. Prístup zdola nahor
- Znak č. 3. Verejno-súkromné partnerstvá: Miestne akčné skupiny MAS
- Znak č. 4. Uľahčovanie inovácie
- Znak č. 5. Integrované a viacsektorové akcie
- Znak č. 6. Vytváranie sietí
- Znak č. 7. Spolupráca

Miestna akčná skupina MAS IPEĽ-HONT od roku 2013 združuje 19 obcí a 1 mesto, vrátane ďalších 28 miestnych podnikateľských, spoločenských organizácií na slovensko – maďarskom pohraničí. Vznikla z dôvodu lokalizácie v pohraničí, zániku poľnohospodárskej veľkovýroby, ako hlavného rozvojového faktora kvality života, tvorby ekonomicky životaschopnej komunity a sociálne podnetného prostredia pre unikajúce najmladšie generácie miestnych obyvateľov. Predstavitelia

[2] Regionálne centrum obehového hospodárstva https://www.narask.sk/l/regionalne-centrum-obehoveho-hospodarstva/

[3] MAS Ipeľ-Hont

samospráv združených v MAS, ako volení predstavitelia cca 18000 obyvateľov, kontinuálne sledujú možnosti zvýšenia kvality života svojich obyvateľov. Z tohto dôvodu neunikla ich pozornosti skutočnosť, že v Slovenskej republike od septembra 2018 bolo na Slovensku zaregistrovaných 645 verejnoprospešných sociálnych podnikov, z ktorých je až 90 % integračných sociálnych podnikov a minimálne 30 % ich zamestnancov tvoria znevýhodnené alebo zraniteľné osoby.[4]

Viacerí starostovia združení v MAS IPEĽ – HONT zvažovali založenie vlastného sociálneho podniku. Avšak boli rozhodnutí ho realizovať len v rámci svojej samosprávy. To je rovnako neinovatívne, ako boli zakladané predošlé obecné sociálne podniky.

2.1 Bez stratégie prepájania za hranice vlastnej municipality.

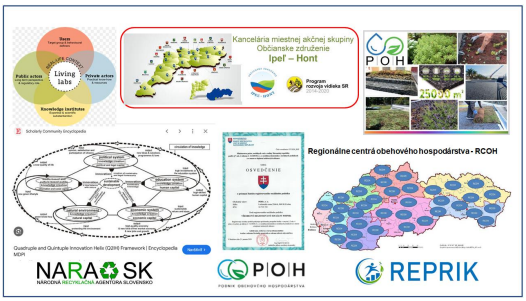
A naviac predseda MAS IPEĽ HONT vo svojej obci realizuje riešenie obehového hospodárstva pre využívanie stavebného odpadu a stal sa úspešným nositeľom inovácie v obehovom hospodárstve v rámci CIRCULAR SLOVAKIA.

Valné zhromaždenie MAS IPEĽ HONT, o.z. dňa 17.04. 20245 požiadalo Bc. Matej Plesník, DiS, konateľa podniku obehového hospodárstva POH, s.r.o., „registrovaný sociálny podnik“[5] o prezentáciu na tému **„Spoločný sociálny podnik, ako nástroj rozvoja územia.“**

Do tejto prezentácie bola prizvaná aj NARA-SK[6]. V rámci projektu *CIRcular City through educational circular economy methods for social enterprises*[7], ktorý si explicitne kladie misiu vzdelávania v sociálnej zamestnanosti na princípoch obehového hospodárstva, priniesla NARA-SK systémové riešenia pre vzdelávanie prostredníctvom LIVING LAB.

Pri implementácii integrovaných zámerov rozvoja regiónu bude pre 1.Regionálne sociálne družstvo vykonávať odbornú pomoc Regionálny priemyselný inovačný klaster Rimavská kotlina REPRIK. Podpora klastrovej organizácia je vzdelávania zamestnancov sociálneho podniku s programom „Údržbár životného prostredia“ a tvorba integrovaných územných investícií[8].

Obrázok 1: Sociálne inovácie v implementácii LIVING LAB



3. ZÁVERY A ODPORÚČANIA

Na základe súladu spoločných záujmov bolo dohodnuté, že:

• Predpokladaný dátum právnej registrácie 1. RSD, družstvo, r.s.p.

• Vytvorenie 1. Regionálneho Sociálneho Družstva, družstvo, r.s.p. vo Veľkých Turovciach (ďalej iba 1. RSD, družstvo, r.s.p.) bude prípadová štúdia a testom v súlade plánom udržateľnosti projektu *CIRcular City* slovenského partnera projektového konzorcia.

• Špeciálna inovačná pridaná hodnota vzniku 1. RSD, družstvo, r.s.p. v podmienkach Slovenska spočíva:

• Vytvorením 1. RSD, družstvo, r.s.p., ktorá má potenciál sanovať environmentálne, ekonomické, sociálne potreby v dopravne izolovanom regióne pre viacero sídel (viac ako 18.000 obyvateľov), čím sa znižujú administratívno-prevádzkové

[4] https://www.nku.gov.sk/-/socialne-podnikanie-ostava-stale-velkou-vyzvou-vacsina-statnych-foriem-podpory-nefunguje

[5] Podnik obehového hospodárstva POH, s.r.o., „registrovaný sociálny podnik“ https://www.poh.sk/

[6] Národná recyklačná agentúra Slovensko NARA-SK https://www.narask.sk/networking/

[7] https://circ-city-project.eu/

[8] Regionálny priemyselný inovačný klaster Rimavská kotlina REPRIK https://www.reprik.eu/priklady-integrovanych-regionalnych-investicii-v-bbsk/

náklady na jednotlivé intervencie a zvyšuje sa ich rentabilita,

• vytvorenie 1. RSD, družstvo, r.s.p. na právnej forme družstva predstavuje potenciál pre obnovenie dôvery k tradičnej forme spájania regionálnych finančných a nefinančných aktív zapojených jednotlivcov. Hoci myšlienka družstevníctva a spolkov stratila dôveryhodnosť na slovenskom juhu počas obdobia 1945-1989, kedy boli poľnohospodárske družstvá budované na princípoch komunistickej ideológie, dnes predstavuje najlepšiu formu kolaborácie aktérov rozvoja regiónu založenú na tvorbe hodnôt a nie na ich majetkových podieloch.

• zapojenie stakeholderov, ktorí už spolupracujú na platforme EÚ programu pre Rozvoj vidieka, výrazne skracuje prípravnú fázu založenia 1. RSD, družstvo, r.s.p.

3.1SWOT analýza potrieb 1. RSD, družstvo, r.s.p.

Obehové hospodárstvo realizované sociálnou zamestnanosťou:

▪ **Stavebný odpad** - riešenia podľa pravidiel obehového hospodárstva a využívanie zachránenej hodnoty v riešeniach skvalitnenia bytovej otázky nízkopríjmových skupín

▪ **Textilný odpad** – tvorba nových produktov samostatného odpadového prúdu textil po 1.1.2025, kedy odpad sa stáva zdrojom novej suroviny . Nové produkty sa aplikujú v riešeniach s jeho hodnotovým využitím vo vodozádržných opatreniach a zelenej infraštruktúre obcí združených v 1. RSD, družstvo, r.s.p.

▪ **Biomasa** – riešenie vzniknutej biomasy z titulu údržby verejných priestranstiev a nevyužitej nepoľnohospodárskej pôdy a obecných lesov.

▪ **Agroprodukcia** - využitie neobhospodarovanej poľnohospodárskej pôdy združených obcí na báze produkčnej schopnosti technickej konopy v bioekonomických aplikáciách (stavebníctvo, izolačné materiály, produkcia semien a oleja).

Sociálne služby realizované sociálnou zamestnanosťou:

▪ okrem rozvoja sociálnej zamestnanosti a zamestnateľnosti bude venovať 1. RSD, družstvo, r.s.p. pozornosť rozvoju výkonov v službách pre seniorov, nakoľko demografický vývoj generuje výzvy z hľadiska sociálnej odolnosti komunít v zapojených obciach.

Verejnoprospešné výzvy:

▪ Vodozádržné opatrenia a problematika pitnej vody - v súvislosti s klimatickou zmenou je región dlhodobo ohrozený z hľadiska zabezpečenia dodávok pitnej vody.

Sociálna inovácia znamená činnosť (proces), ktorá má z hľadiska svojich cieľov aj prostriedkov spoločenský alebo komunitný charakter a súvisí s vývojom a implementáciou nových procesov, prístupov, postupov, modelov, produktov a služieb, ktoré reagujú na relevantné spoločenské a komunitné problémy a potreby. Sociálna inovácia vytvára nové vzťahy, systémy, štruktúry alebo spolupráce medzi jednotlivými sektormi (verejným, občianskym a súkromným), ktoré prinášajú pozitívnu systémovú zmenu v spoločnosti, zvyšujú kapacitu komunít konať a dosahujú spravodlivé a spoločensky prospešné výsledky.[9]

Cieľom CIRC je zapojiť jednotlivcov do obehového trhu práce a podporiť podnikanie v obehovom hospodárstve. Vychádza z predchádzajúcej práce partnerov v oblasti ochrany životného prostredia, zmeny klímy, obnoviteľnej energie, zamestnanosti a sociálneho začlenenia. Projekt je v súlade s cieľmi AGENDY 2030 zdôrazňuje významné príležitosti, ktoré má obehové hospodárstvo pre životné prostredie, hospodársky rast a sociálne dopady v spoločnosti.

[9] https://www.socialneinovacie.gov.sk/index.html

Obrázok 2: Sociálne podniky skrývajú veľký nevyužitý potenciál

Zdroj: https://www.pracovnepravo.sk/sk/personalistika/socialne-podnikanie-ostava-stale-velkou-vyzvou-vacsina-statnych-foriem-podpory-nefunguje.pk-309.html

Kľúčovou požiadavkou udržateľnosti celého projektu CIRC je zabezpečenie aplikácie výstupov projektu priamo v organizácii, ktorá je sociálnym podnikom. Táto požiadavka je z pohľadu NARA-SK splnená na 100%, pretože výstupy projektu využije vo svojej činnosti nová organizácia, ktorá rieši problematiku obehového hospodárstva a má potenciál zamestnávať sociálne, spoločensky, zdravotne handicapovaných jednotlivcov, ktorí žijú v obciach, kde bude sociálny podnik vykonávať svoju činnosť.

REFERENCES

BAKITA.M., PLESNÍK.J., THE CREATION OF REGIONAL CIRCULAR ECONOMY CENTRES OF THE QUINTUPLE HELIX APPROACH, CER Comparative European Research 2022, Research track of the 18th Biannual CER Comparative European Research Conference, ISBN 978-1-7399378-3-6

BAKITA.M., PLESNÍK.J., AKTIVITY KLASTROVEJ ORGANIZÁCIE REPRIK V REGIÓNE GEMER-MALOHONT, ENERGOFUTURA 2022, Zápisník príspevkov a prezentácií, Vydal: NEK, Bratislava, ISBN 978-80-973571-5-3

PLESNÍK.J., PLESNÍK.M., Obehové hospodárstvo v regionálnej samospráve Regionálne centrum obehového hospodárstva, Recenzovaný zborník z medzinárodnej vedeckej konferencie MMK 2021, Masarykova medzinárodná konferencia pre doktorandov a mladých vedeckých pracovníkov 2021, ISBN: 978-80-87952-35-1,

PLESNÍK.M., Práca a zamestnanosť v obehovom hospodárstve, Zborník prezentácií úspešných inovácií ECO & ENERGY Innovation, Košice, 2020. Vydal: NEK, Bratislava. ISBN: 978-80-972637-0-6

PLESNÍK.J., PLESNÍK.M., Regionálne centrum obehového hospodárstva – Regional Hub of Circular Economy, Zborník medzinárodnej konferencie ECO & ENERGY Innovation 2022, ISBN: 978-80-973571-3-9

Uznesenie Európskeho parlamentu z 15. júna 2017 o Európskej agende pre kolaboratívne hospodárstvo (2017/2003(INI)), https://www.europarl.europa.eu/doceo/document/A-8-2017-0195_SK.html

Contact:

Ing. Ján Plesník
Národná recyklačná agentúra Slovensko NARA-SK
A. Hlinku 2568/33
960 01 Zvolen, Slovensko
e-mail: naraslovensko@gmail.com

Bc. Matej Plesník, DiS.
POH s.r.o., "registrovaný sociálny podnik"
Lučenecká cesta 2266/6
960 01 Zvolen
e-mail: konatel@poh.sk

Ing. Marian Bakita, MBA
REGIONÁLNY PRIEMYSELNÝ INOVAČNÝ KLASTER RIMAVSKÁ KOTLINA REPRIK
Železničná 2
987 01 Poltár
e-mail: inforeprik@gmail.com

SUMMARY

1. LIVING LAB 1. REGIONAL SOCIAL COOPERATIVE

Living Labs (LL) - living labs are open innovation ecosystems in real-world environments that use iterative feedback processes throughout the innovation lifecycle to create sustainable impact. They focus on co-creation, rapid prototyping and testing, and scaling innovation and entrepreneurship, providing shared value to stakeholders (various types). In this context, living labs act as mediators/orchestra between citizens, research organizations, societies and government agencies/levels. Across a wide variety of living labs, they share common characteristics but multiple different implementations.

1.1. Basic working approach of NARA-SK

NARA-SK develops the transition from a linear to a circular economy by identifying and developing the cooperation of organizations and individuals who invest their business and non-business efforts in the development of the region (community) by creating joint products. It is in exact accordance with the operational matrix recommended by The European Network of Living Labs (ENoLL): "Living Labs are real-life test and experimentation environments that foster cocreation and open innovation among the main actors of the Quadruple Helix Model, namely: Citizens, Government, Industry, Academia".

NARA-SK bases the transition to a circular economy on the joint creation of products. With this attitude, over the years it has become an integration center - a hot spot. The primary goal is to create a horizontal network with the following key recommendations for involved stakeholders, but also for observers who get to the results of NARA-SK's work through media dissemination tools:
ENVIRONMENTALLY - ECONOMICLY – SOCIALLY!
DON'T DESTROY what is good, you have a chance to IMPROVE it!
NEW PRODUCTS!
VALUE!
COLLABORATION!
COOPERATION!

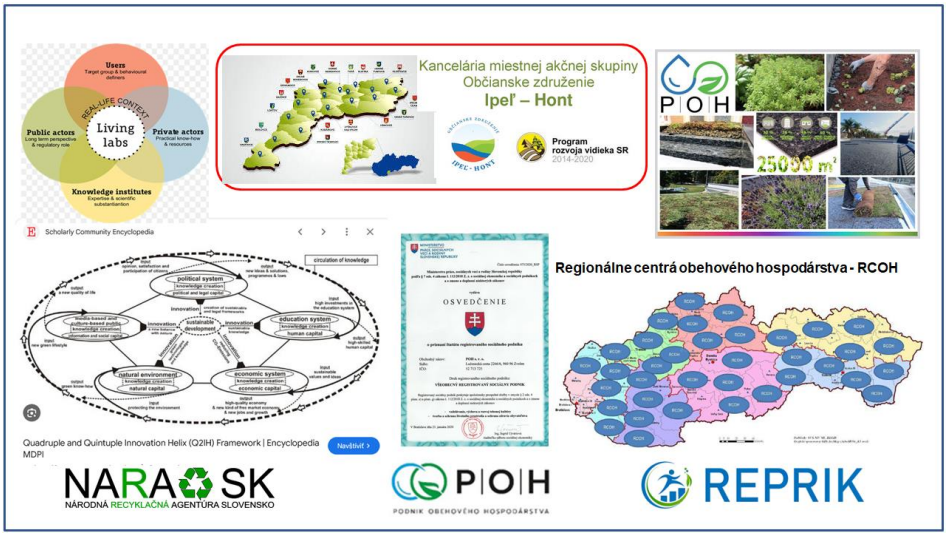
NARA-SK implements its current and future "Living Labs" and Lighthouse Pilots" with the goal of the fastest transfer of project social innovation into practice, while the only criterion for collaboration is the effective and efficient prior motivation of a potential future stakeholder. A characteristic of social implementation is the cooperation of the knowledge organization NARA-SK, which verifies its ideas and intentions in the social economy process at the circular economy company POH, s.r.o, a "registered social enterprise", and the Regional Industrial Innovation Cluster Rimavská kotlina REPRIK implements the networking of regional development actors for implementation.

2. BASIC ORGANIZATIONAL SETTING OF COOPERATION

Since 2013, the local action group MAS IPEĽ-HONT unites 19 municipalities and 1 city, including another 28 local business and social organizations on the Slovak Hungarian border. It arose due to its location in the borderland, the demise of large-scale agricultural production, as the main development factor of the quality of life, the creation of an economically viable community and a socially stimulating environment for the escaping youngest generations of local residents. Representatives of local governments associated in MAS, as elected representatives of approximately 18,000 inhabitants, continuously monitor the possibilities of increasing the quality of life of their residents. For this reason, the fact that 645 public benefit social enterprises have been registered in the Slovak Republic since September 2018, of which up to 90% are integrative social enterprises and at least 30% of their employees are disadvantaged or vulnerable people, did not escape their attention.

2.1 Without a strategy for connecting beyond the borders of one's own municipality.

Figure 1: Social innovation in the implementation of LIVING LAB



3. CONCLUSIONS AND RECOMMENDATIONS

Social innovation means an activity (process) that has a social or community character in terms of its goals and means and is related to the development and implementation of new processes, approaches, procedures, models, products and services that respond to relevant social and community problems and needs. Social innovation creates new relationships, systems, structures or cooperation between individual sectors (public, civil and private) that bring positive systemic change in society, increase the capacity of communities to act and achieve fair and socially beneficial results.

CIRC's goal is to engage individuals in the circular labor market and support entrepreneurship in the circular economy. It is based on the previous work of partners in the field of environmental protection, climate change, renewable energy, employment and social inclusion. The project is in line with the goals of AGENDA 2030 and emphasizes the significant opportunities that the circular economy has for the environment, economic growth and social impacts in society

MODERNÉ RIEŠENIE NEDOSTATKU ZAMESTNANCOV NA SLOVENSKOM TRHU PRÁCE

A MODERN SOLUTION TO THE SHORTAGE OF EMPLOYEES IN THE SLOVAK LABOR MARKET

Radoslav SEKERKA

Abstrakt: *Nedostatok zamestnancov je nočnou morou zamestnávateľov na Slovensku. Používanie tradičných postupov pri identifikovaní perspektívnych zamestnancov zamestnávateľom nepomáha. Riešením je spolupráca s dodávateľskými firmami v oblasti dočasného prideľovania zamestnancov, ktoré sa čoraz viac stáva populárnym riešením v oblasti moderného zamestnávania. Tento model poskytuje firmám flexibilitu, šetrenie podporných administratívnych nákladov a rýchly prístup ku kvalifikovaným aj nekvalifikovaným zamestnancom na vopred definované obdobie. Vďaka ustanoveniam Zákonníka práce a prislúchajúcej legislatíve majú dočasne pridelení zamestnanci rovnaké podmienky ako interní kmeňoví zamestnanci, čo zabezpečuje harmóniu na pracovisku. Tento článok sa zaoberá výhodami modelu dočasného prideľovania zamestnancov, vrátane rýchlosti obsadenia pozícií, profesionálneho prístupu agentúr dočasného zamestnávania, možnosti testovania kandidátov a efektívneho manažmentu spätnej väzby. Dočasné prideľovanie zamestnancov ponúka firmám riešenie na zvládnutie dynamických zmien na trhu a prispieva k ich rastu a hospodárskemu úspechu.*

Kľúčové slová: *Trh práce, nedostatok zamestnancov, vyhľadávanie zamestnancov, dočasné prideľovanie zamestnancov, flexibilné zamestnávanie, agentúra dočasného zamestnávania, firmy, HR oddelenia, dodávatelia*

Abstract: *Lack of employees is a nightmare for employers in Slovakia. Using traditional methods to identify perspective employees does not help employers. The solution is cooperation with supplier companies in the field of temporary assignment of employees, which je increasingly becoming a popular solution in the field of modern employment.This model provides companies with flexibility, saving support administrative costs and quick access to qualified and unqualified employees for o pre-defined period. Thanks to the provisions of the labor Code and related legislation, temporarily assigned employees have the same conditions as internal regular employees, which ensures harmony in the workplace. This article discusses the advantegas of the temporary staffing model, including the speed of filling positions, the professional approach of staffing agencies, the ability to test candidates and effective feedback management. Temporary staffing offers companies a solution to cope with dynamic changes in the market and contributes to their growth and economic success.*

Key words: *Labor market, lack of employees, search for employees, temporary assignment of employees, flexible employment, temporary agency employment, companies, HR departments, suppliers*

https://doi.org/10.52665/ser20240212

1. ÚVOD

Slovensko oslávilo v minulom roku 20. výročie členstva v Európskej únii. Hospodársky rast našej krajiny v dôsledku stabilného zahraničnopolitického ukotvenia Slovenska za uplynulé obdobie je nespochybniteľný a prejavuje sa v stabilite podnikateľského prostredia, príchode medzinárodných zamestnávateľov, zvyšovaní počtu pracovných miest, znižovaní miery nezamestnanosti, zvyšovaní minimálnej aj priemernej mzdy v našom hospodárstve. Slovensko je veľmi otvorenou ekonomikou s výraznými exportnými črtami s prevažujúcim zameraním na automobilový priemysel. Za uplynulé desaťročia sa na Slovensku etablovali významné medzinárodné firmy a zároveň v domácom podnikateľskom podhubí vyrástli slovenské firmy schopné konkurovať aj na medzinárodnej podnikateľskej scéne. V dôsledku európskej integrácie došlo v oblasti podnikania a zamestnávania na Slovensku k harmonizácii legislatívy so štandardami Európskej únie, čo

vytvára predpoklady na ďalší hospodársky rast do budúcnosti.

Jendým z hlavných problémov ďalšieho hospodárskeho rastu na Slovensku definovaný domácimi aj zahraničnými zamestnávateľmi je nedostatok kvalifikovanej aj nekvalifikovanej pracovnej sily v regiónoch, kde podnikajú. Tento problém sa javí ako akútny, dlhodobý a zamestnávatelia hľadajú vhodné riešenia.

Za ostatných 20 rokov sa slovenský trh práce radikálne zmenil, keď z viac ako 20% miery evidovanej nezamestnanosti sme sa dostali v súčasnosti na 5%-6% úroveň miery evidovanej nezamestnanosti. Samozrejme na trhu práce Slovenska vnímame viditeľné rozdiely medzi jednotlivými regiónmi. Samotný trh práce je okrem politických faktorov definovaný spomínaným hospodárskym rastom, demografickými zmenami v spoločnosti, ako aj technickým pokrokom v podnikaní. Trh práce na Slovensku výrazne determinuje aj vzdelanostná a národnostná štruktúra obyvateľstva v jednotlivých krajoch.

Na Slovensku je akútny nedostatok zamestnancov takmer vo všetkých oblastiach hospodárstva – od operátorov výroby, cez zváračov, údržbárov, vodičov, technológov, konštruktérov, zdravotníkov až po špecialistov v oblasti informačných technológií. Výraznú rolu v oblasti nedostatku zamestnancov zohráva:

- akceptácia pracovných ponúk zamestnancov v ostatných krajinách Európskej únie založená na dlhoročnej tradícii pracovať v zahraničí,
- odchod veľkej skupiny zamestnancov do predčasného dôchodku v dôsledku nastavených legislatívnych zmien,
- školský systém neprodukuje dostatok absolventov s technickým odborným zameraním potrebných pre trh práce,
- nízka ponuka pracovných príležitostí pracovať na skrátený pracovný úväzok,
- demografické zmeny prejavujúce sa dlhodobo na trhu práce,
- ťažkopádna domáca legislatíva v oblasti povolení na prácu cudzincov z tretích krajín na trhu práce na Slovensku,
- neochota zamestnancov aktívne sa sťahovať za pracovnými príležitosťami,
- vzdelanostná štruktúra obyvateľstva,
- zmeny v životnom štýle a očakávaniach zamestnancov,
- presun zamestnancov počas pandémie z odvetvia gatronómie do oblasti doručovateľských služieb,
- zvýšené nároky na work-life balance,
- vyššie mzdové nároky nastupujúcej generácie v oblasti mzdového ohodnotenia
- nedostatočné finančné ohodnotenie v niektorých odvetviach národného hospodárstva.

Jedným z riešení nedostatku pracovnej sily pre zamestnávateľom je prechod na dodávateľský spôsob vyhľadávania zamestnancov na trhu práce.

2. RIEŠENIE PROBLÉMU A DISKUSIA (DODÁVATEĽSKÝ SPOSOB VYHĽADÁVANIA ZAMESTNANCOV, DOČASNÉ PRIDEĽOVANIE ZAMESTNANCOV)

Nedostatok zamestnancov na trhu práce je faktom, ktorý nespochybňuje nik z relevatných zamestnávateľov. Vyhľadávanie vhodných zamestnancov pre firmy sa stalo v uplynulých rokoch kľúčovou výzvou. Konzervatívny prístup zamestnávateľov v minulosti umožňoval vyhľadávanie zamestnancov dominantne prostredníctvom interných síl na personálnych oddeleniach (ďalej len „HR oddeleniach").

Vzhľadom na akútny nedostatok vhodných zamestnancov sa rola HR oddelení v oblasti vyhľadávania zamestnancov vo výraznej miere prepojila s marketingovými aktivitami snažiacimi sa prilákať dostatočné množstvo kandidátov na obsadzované pracovné pozície. Ani kumulácia aktivít však zamestnávateľom neposkytuje dostatočný počet zamestnancov a tak je na rade, ako aj v mnohých iných oblastiach, dodávateľská spolupráca s externými personálno poradenskými spoločnosťami. V súčasnosti už je pri realizácii väčších výberových konaní štandardom v

medzinárodných aj domácich firmách spolupráca s externými personálno poradenskými firmami.

V základnej rovine vieme rozdeliť personálno poradenské spoločnosti pri obsadzovaní pozícií do 3 kategórií:

- personálne agentúry zamerané na headhunting,
- personálne agentúry zamerané na recruitment,
- agentúry dočasného zamestnávania (dočasné prideľovanie zamestnancov).

Spolupráca firiem pri obsadzovaní pracovných pozícií v oblasti dočasného prideľovania zamestnancov prostredníctvom agentúr dočasného zamestnávania (ďalej len "ADZ") je využívaná na rôzne typy pozícií..

Dočasné prideľovanie zamestnancov sa ľudovo na trhu práce nazýva aj „personálny lízing". Dočasné prideľovanie zamestnancov vzniklo ako reakcia na potrebu pružnejšieho zamestnávania vo firmách pri plánovaných alebo neplánovaných výkyvoch pôvodne v oblasti výroby a logistiky. V súčasnosti je vo výraznejšej miere využívaný aj model dočasného prideľovania zamestnancov v administratívne na pozície recepčných obchodníkov, fakturantov, asistentov, zamestnancov call centier a na mnohých ďalších pracovných pozíciách. Ide o model, ktorý umožňuje firmám nielen prekonať aktuálne výzvy, ale zároveň optimalizovať personálne procesy. Tento koncept je dnes široko rozšírený vo vyspelých ekonomikách, kde je štandardným riešením pre zvládnutie dlhodobých alebo sezónnych projektov. Situácia na trhu práce núti zamestnávateľov hľadať modernejšie prístupy, ktoré im umožnia byť konkurencieschopní. ADZ sa špecializujú so svojimi sofistikovanými SW nástrojmi na efektívne vyhľadávanie kandidátov a ich cielené oslovenie prostredníctvom inovatívnych marketingových stratégií.

Trh práce sa v posledných rokoch dramaticky zmenil. Digitalizácia, globalizácia a pandémia COVID-19 spôsobili, že firmy museli prispôsobiť svoje metódy zamestnávania. Tradičné formy zamestnávania, založené na dlhodobých pracovnoprávnych vzťahoch bolo potrebné doplniť aj flexibilnou formou zamestnávania definovanou v domacej legislatíve. Potreba dočasného prideľovania zamestnancov je nevyhnutná vzhľadom na meniace sa obchodné výzvy jednotlivých zamestnávateľov.

Firmám prináša táto forma zamestnávania mnoho cenných benefitov, a preto sa stáva neoddeliteľnou súčasťou moderného zamestnávania vo firmách. Dočasné prideľovanie zamestnancov je výhodné pre rôzne typy podnikateľských subjektov, od veľkých medzinárodných firiem po menšie obchodné alebo výrobné spoločnosti, ktoré potrebujú rýchlo a efektívne nájsť vhodných zamestnancov.

Výhody dočasného prideľovania zamestnancov sú:

- Spolupráca s profesionálmi z trhu práce na strane ADZ

Všetky ADZ podnikajúce na slovenskom trhu práce sú evidované na Ministerstve práce, sociálnych vecí a rodiny SR, pričom zamestnávajú špecialistov na vyhľadávanie a výber zamestnancov na trhu práce. ADZ povinne reportujú stavy dočasne pridelených zamestnancov štátnym autoritám a sú pod neustálym dohľadom inšpektorátov práce.

- Získanie dočasne pridelených zamestnancov na vopred stanovenú dobu od svojho dodávateľa ADZ

Firma stanovuje lehotu dočasného pridelenia zamestnancov, ktorá je spracovaná v pracovno právnej dokumentácii dočasne prideleného zamestnanca, ako aj obchodnej dokumentácii medzi firmou a ADZ. Manažéri vo výrobe tak vedia efektívne plánovať počty zamestnancov potrebných na konkrétne obdobie, a tým konkretizovať plán výroby. Súčasťou procesu dočasného pridelenia zamestnancov je samozrejme aj vyhľadanie vhodných zamestnancov zo strany ADZ.

- Plánovateľné priame mzdové náklady na dočasne pridelených zamestnancov na presne stanovené obdobie

Za priame mzdové náklady dočasne pridelených zamestnancov sa považujú celková cena práce zamestnanca stanovená podľa platnej legislatívy,

ktorá je rovnaká ako u interných zamestnancov firmy.

 Plánovateľné nepriame náklady na dočasne pridelených zamestnancov na presne stanovené obdobie

V tejto kategórii sa uvádzajú náklady na ubytovanie, dopravu do zamestnania, ako aj všetky ochranné pracovné pomôcky dočasne pridelených zamestnancov súvisiace s výkonom práce.

 Flexibilita možnosti dočasného pridelenia zamestnancom definovaná v legislatíve

Definuje možnosti podpísania dočasného pridelenia na dobu určitú podľa platnej legislatívy, maximálne však na 2 roky od vzniku pracovného pomeru dočasne prideleného zamestnanca.

 Komplexné zastrešenie pracovno právnej agendy súvisiacej s dočasne pridelenými zamestnancami

Zásadným prínosom pre klientov je odbúranie rizík spojených s legislatívou. Všetku zodpovednosť za pracovno právnu dokumentáciu, mzdy, odvody a prihlášky na úradoch nesie ADZ. V prípade kontroly zo strany štátnych inštitúcií klient nemusí mať obavy, pretože ADZ garantuje plné dodržiavanie všetkých legislatívnych požiadaviek. Týmto spôsobom sú firmy chránené pred možnými sankciami a administratívnymi komplikáciami.

 Celkové spracovanie mzdovej agendy súvisiacej s dočasne pridelenými zamestnancami

Garantovaná je profesionalita a precíznosť v spracovaní miezd vychádzajúcich z predloženej dochádzky. ADZ využívajú najmodernejšie softvérové riešenia, ktoré garantujú presnosť a efektivitu výpočtu miezd. Zároveň zaisťujú kompletnú komunikáciu so zamestnancami, od podpisovania pracovných zmlúv a dodatkov, cez riešenie neprítomností, až po úplne spracovanie ročných zúčtovaní miezd a potvrdení o príjmoch.

 Zabezpečenie vyplácanie záloh a celej administratívy s tým spojenej

Komplexný manažment prípravy a vyplácania záloh je riešený v réžii ADZ. Firme nevznikajú náklady súvisiace s touto administratívnou záťažou. Na druhej strane mnohé firmy nechcú realizovať vyplácanie záloh zamestnancom z dôvodu obrovskej administratívnej záťaže, ako aj práce s hotovosťou, preto túto činnosť radi prenechávajú na ADZ.

 Komplexné softwarové vybavenie prepojené na dodávateľov

ADZ zabezpečujú softvérové prepojenie cez API s existujúcimi softvérami firiem za účelom priamej distribúcie dát súvisiacich s odpracovanými hodinami dočasne pridelených zamestnancov a ostatných dát súvisiacich s dočasným pridelením zamestnancov.

 Efektívne plánovanie a šetrenie cash flow vzhľadom na nastavenú dĺžku splatnosti faktúr

Firmy majú od ADZ vyplatené mzdy dočasne pridelených zamestnancov ešte predtým ako uhradia faktúry za realizované služby. Tento fakt im umožňuje z ekonomického hľadiska efektívnejšie pracovať so svojim casf flow a primerane plánovať svoje finančné zámery.

 Sústredenie sa firiem na core business, nie na podporné procesy vo firmách

Firmy sa dominantne sústreďujú na core business firmy a nemusia sa venovať pre nich podporným aktivitám súvisiacim s vyhľadávaním, výberom a následným zamestnávaním zamestnancov.

 Nižšie náklady na marketing v oblasti získavania zamestnancov – náborové kampane

Moderný prístup v oblasti dočasného prideľovania zamestnancov tiež zahŕňa inovatívne marketingové stratégie. ADZ využívajú sociálne siete, vlastné portály, SMS marketing a videoreklamy na prilákanie kandidátov a výkonnosť týchto kampaní sledujú a upravujú na základe dát od všetkých klientov a kandidátov, čo do veľkej miery nie je realizovateľné na internom HR oddelení priamo u klienta. To umožňuje získať kvalitných zamestnancov oveľa rýchlejšie a efektívnejšie, než by to bolo možné tradičnými metódami v rámci interného HR oddelenia spoločnosti. Vďaka širokým databázam a prepracovaným procesom dokážu ADZ poskytnúť klientom vhodných kandidátov v rekordnom čase, kedže neustále inovujú svoje procesy a systémy tak,

aby vedeli konkurovať rýchlosťou a presnosťou konkurencii. Nástupom a integráciou systémov umelej inteligencie, ktorá dokáže pracovať a porozumieť veľkému objemu dát sa prehlbuje výkonnostný rozdiel, ktorý je neporovnateľný medzi ADZ s interným HR oddelením.

- Nižšie náklady na prípravu, spracovávanie a archiváciu pracovno právnej dokumentácie

Pre zamestnancov tento model predstavuje stabilitu a široké možnosti. Rovnaké pracovné podmienky garantované zákonom poskytujú prideleným zamestnancom férovosť a rovnosť v rámci pracovného prostredia. Zároveň to eliminuje potenciálne konflikty medzi kmeňovými a pridelenými zamestnancami, čím sa vytvára harmónia v pracovných kolektívoch. Po ukončení projektu im ADZ často vie poskytnúť nové pracovné príležitosti. Zamestnanci si čoraz menej uvedomujú rozdiel medzi priamym zamestnaním a prácou cez ADZ, pretože výhody ostávajú rovnaké, vrátane úhrady sociálnych a zdravotných odvodov, ako aj možnosti čerpania firemných benefitov. Zároveň majú istotu, že ich práva sú plne chránené a môžu sa spoľahnúť na profesionálny prístup ADZ.

3. ZÁVERY A ODPORÚČANIA

Dočasné prideľovanie zamestnancov predstavuje moderný a efektívny spôsob, ako zvládnuť dynamické potreby firiem na trhu práce v oblasti vyhľadávania a prideľovania zamestnancov. Tento model ponúka flexibilné zamestnávanie, výrazné šetrenie finančných nákladov na marketing, nábor a spracovanie pracovno právnej dokumentácie. Pre firmy, ktoré chcú zostať konkurencieschopné a prispôsobiť sa meniacim požiadavkám je to ideálna voľba doplnenia interného stavu zamestnancov.

Dočasné prideľovanie zamestnancov je súčasnosťou, ale aj budúcnosťou v oblasti zamestnávania, ktorá ponúka široké možnosti pre zamestnávateľov aj zamestnancov. Je to moderný a efektívny nástroj, ktorý umožňuje firmám sústrediť sa na to najdôležitejšie – rast a úspech v konkurenčnom prostredí.

Contact:

PhDr. Radoslav Sekerka PhD.
riaditeľ pre strednú Európu DEKRA Arbeit Group
Panónska cesta 47
Bratislava, 851 04, Slovensko
e-mail: radoslav.sekerka@dekra.com

SUMMARY
The labor market has undergone significant changes in recent years in Slovakia. Companies need to solve the labor market shortage. The modern way of finding and employing employees is through the temporary assignment of employees. Among the biggest advantages of temporary staffing belongs: external processing of hiring and marketing campaigns, supply of suitable employees, focus of companies on core business activities, saving and effective planning of cash flow, saving indirect costs of companies, employment legal support and cooperation with HR experts. The growth of temporary staffing is indisputable and ll play a significant role in the labor market in the coming years as well. Just as companies use supplier services in the field of auditing, IT technologies, accounting, logistics, so more companies ll use supplier services to a great extend in the field of searching and employing employees – through the service of temporary assignment of employees.

GUIDELINES FOR AUTHORS

The journal is focused on current issues of economic theory, economic development, social, legal, political, environmental and cultural aspects of economics, finance and management. Paper submission deadlines are as follows: 31 March, 30 June, 30 September and 31 December in the respective year.

After submission, manuscripts are double-blind peer reviewed. Authors are responsible for the content, originality and scientific accuracy of their contributions, as well as compliance with the journal's instructions for authors and clear and concise language. Reviewers' affiliation is to be different than the author's institutional affiliation. Reviewers will consider the research contribution significance, adequacy of methods, paper's layout and author's writing style. Reviewers can make the following decisions regarding submissions: a) to accept the paper in its current format, b) accept the paper with minor changes, c) resubmit with major changes, d) decline the submission. The journal's editorial board reserves the right to decide whether to accept papers and send them for full review or reject them. Author(s) will be informed in writing or by phone about the acceptance or rejection of their manuscripts. In case of rejection, the editorial office is authorised to keep a hard copy of the manuscript.

Submission of a manuscript implies that it reports **unpublished** work which has not been published and/or is not under consideration for publication elsewhere.

Manuscripts **should not exceed** 22 standard A4 pages in length.

Manuscripts are to be submitted in English, Slovak or Czech language. Send two printout versions and an identical electronic manuscript in *doc* or *docx* format (revue@tnuni.sk). One of the printout copies is to **be signed by the author** to declare that s/he gives consent to have his/her manuscript published free of charge in print and electronic version (*pdf* format) by the Social and Economic Revue journal. By signing, authors are confirming that their manuscript is not copyrighted by others and was written solely by them.

MANUSCRIPT FORMAT – page set up for B5

- Title of the paper – centered, capital letters (11-point font size, Arial Bold);
- Author's name – centered, do not include professional, official or academic degrees (12-point font size, Arial (*Italics*);
- Abstract (8 – 10 lines) – English language (9-point font size, TNR *Italics*);
- Key words (at least 5 words) – written in Slovak (Czech) and English language (9-point font size, TNR *Italics*);

Body of main text: *Introduction* (establish the existing state of knowledge of your research topic, identify the specific focus of your work, include relevant citations from primary literature, justify how this topic requires additional study, state specific objectives/hypotheses, methods, describe the meaning of your research); *Goal and Methodology; Findings; Discussion*; *Body of main text* should be divided into chapters and subchapters. Chapter titles are to be numbered, 11-point font size bold, align left; *Conclusion*; *Notes.*

Manuscript formatting:

- aligned to block,
- 10-point font size, Times New Roman,
- single spaced,
- indent each new paragraph 3 pt,
- do not paginate.

Tables and graphs are to be in black and white colour, numbered in order of their being referenced in the text. Table titles (Table 1), graph titles (Graph 1) and/or figure titles (Fig.1) should be written in 10,5-point font size, Times New Roman. Indicate source in 8-point font size, Times New Roman. *Source: Cihelhová. (2009). Svetová ekonomika, s.23*., *By: www.slovakia.culturalprofiles.net/?id=-13602, (2012-15-03).* **Formulas** are to be numbered using a parenthesis.

References in the text (Harvard style – APA styles (American Psycho-logical Association 6th edition) should be set in parenthesis in this type of format: (a surname of an author(s) of a work, comma the year of edition and number of pages, for example: (Romer, 1985, pp. 998-1020; Snowdon (Ed.), 1998, p. 100; Snowdon et al., 1998, pp. 100-121; Romer, 1985, pp. 998-1020).

References should appear in the reference list at the end of the paper. List references in alphabetical order by surname and name of the author in line with the applicable Slovak style of reference/citation. References within the text (name, date and page number) may be given in parenthesis (Drucker, 2005, p. 87). Do not use footnotes.

Author's address/authors' addresses: full name and surname, incl. academic degrees, institutional affiliation, address, telephone number and e-mail address.

Template B5

TITLE (ARIAL BODY TEXT ALL CAPS VEĽKOSŤ 11)

Name SURNAME of the authors (Arial italics font 11)

Abstract Times new roman Italics Body text (9)

Text Times new roman Italics (10,5)

Key words Times new roman Italics Body text (9)

Text Times new roman Italics (10,5)

JEL Classification: Xxx, Xxx, Xxx. (Times new roman (9))

Introduction (Times new roman Body text 10)

Text Times new roman (10)

Goal and Methodology (Times new roman Body text 10)

Text Times new roman (10)

Findings (Times new roman Body text 10)

Text Times new roman (10)

Discussion (Times new roman Body text 10)

1. Title of the Chapter (Times new roman Body text 10)

Text Times new roman (10)

1.1 Title of the Subchapter. Times new roman Italics text 10)

Text Times new roman (10)

Conclusion (Times new roman Body text 10)

Text Times new roman (10)

Acknowledgments (Times new roman Body text 10)

Text Times new roman (10)

References (Times new roman Body text 9)

Mcheill, A. (2002). Correlation and dependence. Dempster, M.A.H. (ed.): *Risk Management: Value at Risk.* Cambridge: Cambridge University Press, 176–223. (kapitola v knihe)

Dluhošová, D. (2003). Performance analysis. *Business Economics, Management and Marketing.* Ostrava: EF, VŠB, s. 205–213. (článok v zborníku z konferencie)

Bartman, S. M. (2007). Corporate cash flow. *Journal of Corporate Finance*, 10 (2), 101–111. (článok v časopise)

Woolman, N. (2011). *Investment in creative industries is not high risk.* [acc.: 2012-15-11]. Available at: http://www.thestage.co.uk/news/not-high. (internetový zdroj)

Štatistický úrad SR. (2010). *Trendy v nezamestnanosti.* [on-line] [cit.: 2012-15-03]. Retrieved from: http://www.slovakia.culturalprofiles.net/?id=-13602.

Contact (Times new roman Body text 9)

Name, Surname, degrees.
Dept., Facuty (School), University
Address, e-mail: Times new roman (9)

The lenght of the papaer - longer than 21 thousand and shorter than 35 thousand characters with spaces submitted for publication in journal.